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THE STUDENT-TEACHING TRIAD--THE RELATIONSHIP OF ATTITUDES AMONG STUDENT TEACHERS, COLLEGE SUPERVISORS, AND COOPERATING TEACHERS.

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INTERPERSONAL ATTITUDINAL RELATIONSHIPS AMONG STUDENT TEACHERS, COOPERATING TEACHERS, AND COLLEGE SUPERVISORS IN THE TEACHER-TRAINING TRIAD WERE INVESTIGATED. RELIABILITY TESTS RUN ON THE INSTRUMENTS USED IN THIS STUDY SHOWED THAT THE INSTRUMENTS WERE INTERNALLY CONSISTENT AND DID REVEAL ATTITUDINAL RELATIONSHIPS. A THEORETICAL FRAMEWORK WAS DEVELOPED AROUND THE STUDENT-TEACHING TRIAD, AND CERTAIN QUESTIONS WERE RAISED CONCERNING THE INTERPERSONAL BEHAVIOR EVENTS INVOLVING THE STUDENT TEACHER ACTING AS A FOLLOWER AND HIS COLLEGE SUPERVISOR AND COOPERATING TEACHER ACTING AS LEADERS. THE STUDY'S RESULTS, BASED ON EVIDENCE GATHERED FROM 124 TRIADS, INDICATED THAT THE FOREMOST CONCERN FOR WORKERS IN STUDENT TEACHING IS THE DEVELOPMENT OF GREATER COHESIVENESS AND INTERACTION IN THE STUDENT-TEACHING TRIAD. THE RESULTS, HOWEVER, SHOWED THAT THE TRIAD RELATIONSHIPS MORE OFTEN RESEMBLED COMPETITIVE TRIAD SETTINGS RATHER THAN COOPERATIVE TRIAD SITUATIONS. (GD)

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Research Report to the

U. S. OFFICE OF EDUCATION

The Student-Teaching Triad:

The Relationship of Attitudes Among Student Teachers, College Supervisors, and Cooperating Teachers

by

Albert H. Yee

THE UNIVERSITY OF TEXAS
Austin

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education
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Before the proposal was submitted to the USOE, Professor William A. Bennie, Director of Student Teaching, helped me obtain a sample. We arranged permission with the cooperation of Associate Superintendent T. P. Baker of the Austin Independent School District to recruit subjects from Austin schools. Permission was granted by the Psychological Corporation to modify the MTAI for research purposes. A number of colleagues acted as judges in the preparation of the "My College Supervisor" and "My Cooperating Teacher" inventories.

Shortly after a USOE contract was successfully negotiated with the help of Executive Director Jens Jacobsen and Administrative Assistant Martha Boyd of the Office of Sponsored Projects, we began pretesting subjects.

Mrs. Gloria Massey assisted in the administration of tests and completed a doctoral thesis with data from this study. H. Albert Napier and William Geeslin helped provide the necessary computer programming and data processing assistance. The Computation Center of The University of Texas under Professor D. M. Young and Mr. C. B. Williams performed all of this study's computer work. Janice Willenborg and others provided able office assistance.

This final report was completed while I was on a leave of absence at the University of Oregon with a post-doctoral research training fellowship sponsored by the USOE through the School of Education. Professors Richard O. Carlson and Keith Goldhammer are acknowledged for their help and advice in facilitating my work there. The facilities of the Center for the Advanced Study of Educational Administration were made available by Professors Philip Runkel and Roland Pellegrin to whom I am indebted for the freedom of work and excellent services to be found there. Joanne Kitchel, Editor for the Center, is acknowledged for her skill in facilitating the printing of this report at the University's printing division. The typing of this final report was expertly handled by Deidra Hubbell with assistance from Joanne Hutcheson and Judy Kyrk. Costs for the preparation of this report were covered by the study's USOE contract.

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1967

Definitions of Terms

Literature concerning student teaching reveals inconsistencies in terminology used to refer to members of the student-teaching triad. In this report, the following definitions of terms will be used:

Student teaching: A prolonged period of laboratory experience in an actual classroom situation during which the student takes increasing responsibility for his preparation as a teacher under the direction of a college supervisor representing his teacher-education center and a cooperating teacher who is responsible for the classroom situation.

Student teacher: A person enrolled and actively working in student teaching; sometimes referred to as candidate or student.

Cooperating teacher: A classroom teacher who carries the responsibilities for one or more student teachers in addition to his regular teaching assignment in a private, public, or laboratory school; sometimes referred to as teacher.

College supervisor: The college or university instructor who carries the primary responsibility for guiding and evaluating the student teacher; sometimes referred to as supervisor.

Leader: A generic term for cooperating teacher and college supervisor.

Student-teaching triad: The small group made up of a student teacher and the cooperating teacher and college supervisor to whom he is assigned.

Dyad: Two persons involved in social interaction. Within the student-teaching triad, there are three dyads involving the following members: (1) the college supervisor and student teacher (C-S); (2) the cooperating teacher and the student teacher (T-S); and (3) the college supervisor and the cooperating teacher (C-T).

Coalition: Kelley and Thibault (1959, p. 205) wrote:

> By coalition we mean two or more persons who act jointly to affect the outcomes of one or more other persons. This joint action is presumably based upon common interest, or, . . . correspondence of outcomes.

Social attitudes: Krech, Crutchfield, and Ballachey (1962, p. 146) wrote the following comprehensive definition:

> The actions of an individual are governed to a large extent by his attitudes. An attitude can be defined as an enduring system of three components centering about a single object: the beliefs about the object -- the cognitive component; the affect connected with the object -- the feeling component; and the disposition to take action with respect to the object -- the action tendency component.

Interpersonal behavior event: As Krech, Crutchfield, and Ballachey (1962, p. 4) wrote:

> . . . the interpersonal behavior event . . . may be thought of as a process of interaction between two or more individuals, in which the action of one person . . . is a response to the second person, . . . and, at one and the same time, is a stimulus for the second person . . . the actions of each are in reference to the other. The actions of each are at once a result of and a cause of the action of the other.

Need-dispositions: dimensions of personality as revealed in characteristic strivings of the individual and his perceptions of the interpersonal environment.

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Chapter 1

The Problem

Two is company, three is a crowd.

Thomas Fuller, Gnomologia, 1732.

In all states of the Union, student teaching has become the typical culminating experience prior to the granting of teaching credentials. Few challenge the requirement and the validity of its worth. As an established institution in teacher preparation, testimonials from professional educators and students alike extol the value of such experience. The important commitment to time and effort teacher education centers give to student teaching can be seen in the following: all of the 689 member institutions listed by the 1965 American Association of Colleges for Teacher Education (AACTE) Yearbook include student teaching as a part of their teacher-preparation programs. Nearly one-half of the colleges make full-day student-teaching assignments, about the same proportion use a half-day as a minimum, while a few require only one or two hours a day (Andrews, 1965, p. 203).

Using information supplied by AACTE members, Andrews (1964) estimated that student-teaching enrollment will double between 1960 and 1970. The estimate appears to be quite probable, for unless licensing policies toward student teaching change, population growth and the increasing "teacher shortage" themselves should ensure expansion of such work. Since there is common agreement that student teaching be continued and expanded, even among dissonant groups concerned with teacher education, it is highly unlikely that policies will change to decrease such requirements.

A good example of this can be seen in the recent credential laws passed by the California Legislature after bitter fighting between professional forces and "anti-educationists." The new laws drastically reduced the number of professional course requirements and increased "academic" course work, but the Legislature made sure that practice teaching for elementary school candidates would not be diminished by requiring at least 180 hours of classroom practice. Also, in his much discussed and controversial book, The education of American teachers, Conant (1963, p. 142) wrote: "As we have seen, the one indisputably essential element in professional education is practice teaching." Thus, student teaching is an expanding fixture in teacher education today and is here to stay.

Yet, with such increasing time and emphasis being given to this facet of teacher preparation, what do we know empirically about the effect of student teaching on future teachers? Does it really provide a qualitative difference in teacher product? Reviewing research on pre-service and in-service education of teachers, Reynard (1963) lamented the lack of investigation in the area of professional laboratory experience. He wrote (p. 375), "Professional laboratory experience seems to be the area least challenged in teacher education." Such comment indicated no change since Michaelis (1957, p. 1473) wrote: "The general status of critical, evaluative research on student teaching is poor."

If student teaching does play a vital role in the future success of a teacher, what factors in the student-teaching experience significantly affect the teacher and his professional work? Knowing such factors, educators may learn what factors to manipulate and emphasize to improve student teaching. In these matters, unfortunately, there is little information. After a review of the literature on evaluation of student-teacher outcomes, Turner and Fattu (1960, p. iii) concluded that:

> Seventy years of research on teacher effectiveness have not added much to our systematic knowledge, and it is difficult to see how another seventy can do anymore if the same procedures are followed.

Agreeing with this criticism of research in the student teaching area, Sarason, Davidson, and Blatt (1962, p. 116) suggested the following investigations:

> What are desperately needed are studies which have as their aims a detailed description of what goes on between neophyte and supervisor, ... and the development of procedures that would allow us to evaluate the effects of practice teaching on the neophyte teacher, procedures which could be better than private opinions.

The last reference inspired the initial planning of this study, and we acknowledge our indebtedness to the writers for their guidance. It was their suggestions which stimulated attention to what is probably the most determining aspects of student teaching -- the interpersonal behavior events involving the student teacher, his supervisor and his cooperating teacher.

Effects of Student-Teaching Experience

Numbers of questionnaires and surveys abound testifying that teachers in the field believe that student teaching was the most valuable professional course undertaken in college. The following are examples of such investigations.

Responding to an opinionnaire by Chase (1963), thirty-four beginning teachers representing all grade levels indicated that they found little gap between student teaching and actual teaching as far as classroom experience was concerned. A large number expressed a desire for a longer period of student teaching.

A questionnaire by Bennie (1964) elicited responses from 171 elementary and secondary beginning teachers. Of this group, 77.2% rated their student teaching as being of great value to them; another 21.1% indicated that student teaching was of some significant value. Two of the three teachers who felt that student teaching had been of little value were teaching in fields other than those in which they did student teaching. Student teaching was viewed as being much more valuable than other education courses by 88.9% of the group responding.

Empirical evidence, however, supporting the positive effects of student teaching have been scant, because little empirical research has been attempted on this question. Only one empirical study investigating the question whether student teaching has any effect at all comes to light. Beery (1962) conducted a study to investigate if a difference exists in teaching effectiveness between first-year teachers who have had student-teaching experience and those who have not. Teachers were paired with the best match possible so that the student-teaching experience was the outstanding independent variable. Teaching effectiveness was judged by a group of impartial observers using an objective instrument. The results of the study indicated that those teachers who had had student-teaching experience were consistently and significantly rated better than those without such preparation. Such results, therefore, support the efficacy of student-teaching experience, if the study was indeed successful in controlling other significant independent variables.

Although there is little empirical evidence supporting the value of student teaching, there is, however, considerable evidence that student teaching affects the behavior of candidates. Perhaps objective questions and studies of effect will be of greater help and lend themselves to better research designs and techniques than those based on value-oriented criterion-of-effectiveness paradigms. Such paradigms, according to Gage (1963), have over-simplified issues and have yielded disappointing results when applied to extensive studies of teacher effectiveness.

In student teaching, the candidate's personality and behavior become significant factors relative to the personalities and behaviors around him. It is unlike other course work where the students are mostly passive and absorbing whatever the instructor says and does. In other words, student teaching is conducted in an interaction setting that has no equivalent in most teacher-training programs. It is a time for candidates to perform, evaluate, act, react, and adapt in relationship with and in response to others also involved in the setting. Unfortunately, we know very little about the relationships of personality and behavior in student teaching.

Not much is written and known about the pupil factor in student teaching. Although their attention and efforts are directed to the education of pupils, student teachers seem to credit their cooperating teachers' and supervisors' influences as more significant. Although pupils must determine the setting to some degree (with a range of variability according to their differences in characteristics and behavior), their overall effect on other persons involved in the student-teaching setting may be negligible. In relation to the learners, the cooperating teacher and the student teacher form a leadership team or coalition to facilitate their classroom work and supervisors seldom deal with pupils; i.e., the adults including student teacher, form a unit separate from the children. In the adult unit where interaction concerning the purposes of student teaching prevails, the student teacher's role is follower and the cooperating teacher and supervisor act as leaders. In this pilot study, we will restrict our attention to this triad.

Lindsey (1961) said that little investigation has been conducted to determine the leadership characteristics of more effective college supervisors and cooperating teachers. It follows that little is known about supervisors' and cooperating teachers' leadership styles. Much less is known about the followership characteristics of student teachers as they seek their leaders' approval and favorable evaluations.

To point up the sad state of affairs, there is a lack of evidence indicating whether supervisors (who carry major responsibility for the candidates' final evaluation) can even objectively evaluate their student teachers. Yet school personnel officers are sure to weigh such evaluations heavily when the newly-credentialed teacher seeks a place and perhaps at anytime in his career. According to Stern (1963, p. 420), "the faculty ratings or judgments of teaching success have generally been used without further analysis or modification, even though these ratings are transparently imperfect measures of the criterion performance." Wilk and Edson (1963, p. 315) found that the typical method of having only one supervisor rate and guide student teachers provided "opportunity for bias to operate considerably for or against one student."

Conant's (1963, p. 143) suggestion that "clinical professors" of teaching, analogous to clinical professors in medical schools, should "supervise and assess the practice teaching" has been provocative, but not truly penetrating. His recommendations that such supervisors "have had much practical experience," be "first-rate teachers," and be freed of academic pressures of publication and research do not substantially expand present efforts and criteria to select and prepare effective supervisors.

Therefore, evidence suggesting the validity of typical practice-teaching requirements is abundant in the testimonial and discursive area. There appears to be some empirical evidence that student-teaching experiences provide candidates significant advantages over those without similar training and that such experiences provide more effects than instructional skills-building and practice as a teacher. The greatest deficiencies in knowledge concerning student teaching appear to be in the area of interpersonal relationships. This is most regrettable, for the testimonial descriptions and the research given student teaching so far imply that the greatest contribution to variance in student teaching lies in the interaction between student teacher, cooperating teacher, and college supervisor. The present study is an attempt to learn more about such interpersonal relationships.

Approaches to the Study of Interpersonal Relationships in Student Teaching

The following section is a review of literature from which we obtained guidelines for this pilot study of interpersonal relationships in student teaching.

1. Present-Day Trends in Improving Teacher Education. Coladarci (1962, pp. vii-viii) wrote:

> Contents and procedures of teacher education frequently have not demonstrable relevance to the actual teaching task ... the assumptions, methods, and curricula that define programs for preparing teachers are largely of uncertain validity.

This statement expresses the convincing theme of Sarason, Davidson, and Blatt in their book, The preparation of teachers (1962), the publication of which was an important spur to the evaluation of teacher education programs by professionals. The book points out that while it is true that teachers have been poorly educated in the liberal arts and sciences, it is the laboratory experiences that require careful scrutiny and re-evaluation. According to the authors, the main improvements could be developed in helping candidates become "applier(s) of psychological principles" through more skillfully supervised "clinical" observations.

One persisting problem hindering the improvement of student teaching is the lack of skilled professional supervision and knowing what such expertise requires for greatest effect. Although it is assumed that the college supervisor should be well-qualified for the task of evaluating and guiding the novice teachers, behavioral criteria for qualifying persons to fill such leadership roles have not been well developed. Those proposed seldom have been tested. For the most part, cooperating teachers and college supervisors have not had special training for their roles. Cooperating teachers have come through the same type of teacher-education programs and may unwittingly reinforce ineffective emphases. Also, the cycle is perpetuated by the fact that many supervisors are employed by colleges to work only with student teachers and have reached such positions by recognized classroom excellence, entering graduate programs in education, or both. Such work typically commands the lowest prestige among teacher education faculties.

Another major problem has to do with the lack of innovation and knowledge of the effect of content and laboratory experiences in student teaching. To help overcome such problems, research and development grants from agencies, such as the Fund for the Advancement of Education (Woodring, 1957) and the U. S. Office of Education (Opportunities for ..., 1966), have greatly increased the search for improvements in teacher education. Here are some examples of innovative programs:

Ort (1965) described a project at Indiana State where "renewed emphasis is being placed on trying to determine what kinds of experience pay the greatest dividends in effecting behavioral changes in prospective teachers" (p. 167). To this end, Indiana State is providing actual classroom observation and participation and televised observations prior to student teaching. Some colleges of education, such as at The University of Texas, have already instituted regular classroom observation and participation experiences as part of the candidates' first professional course work. Thus, candidates are provided laboratory experiences at the first and last of their basic professional training. The University of Texas and San Francisco State College are other examples of teacher-education centers utilizing televised classroom observations.

Allen (1966) reported considerable success in the innovative Teacher Intern Program at Stanford University first begun in 1964. Each year, the program provides 125 highly qualified secondary candidates close individual work with "tutor" supervision and innovative clinical exercises. Instead of the standard student-teaching assignments, Stanford interns undergo "micro-teaching" which "is a scaled-down teaching encounter, scaled in terms of class size (1-5 students) and time (5-20 minutes)" (p. 297). Micro-teaching sessions are evaluated by the candidate, the supervisor, and the learners. After micro-teaching experiences during the summer quarter and preparation in foundational and curricular courses, the interns take full responsibility for two classes during an entire academic year. Great use of technical aids, such as video recordings and 35 mm. time-lapse photography, are utilized to provide candidates maximum feedback information concerning their teaching performance.

The common characteristic of new programs in teacher education, as illustrated above, appears to be their attempts to manipulate content variables, trying to make learnings more directly related to actual classroom needs. By so doing, the innovative programs enhance the interactive relationship between student teacher and his leaders, making the student teacher aware of more and requiring more skill and knowledge of the leaders.

2. Individuals' Characteristics. Few professional educators would need to be convinced that the individual differences of student teachers need to be considered during their training. However, some may not apply the same principle to the personalities and behaviors of cooperating teachers and supervisors. They may assume an ideal, normative type of leader effective with most student teachers. Such an unreflective assumption would place considerable burdens on the students who must then accept major responsibility for difficulties in the triadic relationships. Following are a few examples of studies which have investigated individual differences of triadic members:

Symonds (1954) and Miller (1960) investigated the effect of individual personality patterns on teachers' educational values. Symonds (1954) concluded that his study, based on observations and interviews (by himself), the Rorschach, and The Thematic Apperception Test, support the belief that teaching methods are largely an expression of basic personality patterns. Miller's (1960) research supported his hypotheses that the rating given a student teacher is related to personality characteristics that he possesses; and that ratings given by a cooperating teacher are affected by his own personality characteristics. Both studies suggest that cooperating teachers' ratings of effective or ineffective teaching may be largely a function of individual personality characteristics, attitudes, and values, thus allowing strong influences by subjective bias.

MacDonald and Doll (1961) compared changes in attitudes and values of two groups (Ns = 20 and 52) of student teachers using variables of age, marital status, number of children, and previous work experiences. Testing differences in changes for both groups on pre- and posttests of the MTAI and Kerlinger's Educational Values Scales ESI and ESII, the writers found that "mature" students who were married and parents and had considerable work experience made significantly larger gains than less mature, unmarried students having little or no work experience.

Walberg (1964) examined the possibility that the conflict between personality needs and institutional expectations during student teaching lowered self-conception among student teachers, resulting in more negative attitudes toward teaching. A series of 26 standard seven-point semantic differential scales and 18 similarly constructed bipolar phase scales were administered to 77 female student teachers, two-thirds of whom were in elementary education while the remaining one-third were in secondary education. The student teachers rated themselves three weeks before and immediately after a 12-week student-teaching period. Using Stanley and Campbell's (1963) one group, pretest-posttest design, Walberg found a significant difference between pre- and posttest means for every item, with student teachers revealing a significantly lowered self-conception at the end of the student-teaching period. Walberg commented that:

> An extension of this theory holds that neophytes with stronger personality needs have more role conflict, lower self-conception, subsequently less satisfaction; therefore, less persistence in the profession .... Students with lower intellectual and emotional needs as a group may be able to conform to the institutional role more easily and without losses in self-conception, whereas stronger personalities may leave the field. (p. 8)

Evaluations by candidates of student-teaching experiences credit their leaders with considerable potential in influencing them. Such evaluations of supervisors' and cooperating teachers' help and influence (Wroblewski, 1963; Sharpe et al., 1964) strongly suggest that candidates express individual affective and cognitive needs. These expressions also support the assumption that the direction of influence is overwhelmingly from supervisor and cooperating teacher to student teacher. Some suggestions made by student teachers to cooperating teacher ("Encourages us with your friendly, helpful, and understanding attitude." "We need to immediately feel secure in our new situation." "Build him a port of familiarity.") make appeals for fulfillment of affective needs. Other suggestions ("Takes time after presentation of the lesson to the class." "Tell him when he has made a mistake or when he is on the 'wrong track'." "Criticizes us when we need it,") point to cognitive needs which should be met. Reactions from student teachers also indicate that their needs undergo change in the process of student teaching. For example, they may express affective need-dispositions in the early part of their laboratory experience and shift later toward more cognitive need-dispositions as their anxieties decline and their confidence increases.

3. Interaction Processes. It has been suggested that the search for leadership traits will not be successful unless study is made of the relation between leader and follower, and the demands each makes upon the other. Sanford (1952, p. 329) wrote:

> The follower is always there when leadership occurs. It is he who accepts or rejects leadership. It is he who follows reluctantly or enthusiastically, obediently or creatively. In any situation where leadership occurs, he is there with all his psychological attributes ... his habits, attitudes, preferences, biases, and deep-lying psychological needs. If we know something about these psychological attributes we know something about the follower's "readiness for leadership." We know something about the sort of relations he will be inclined to establish with what sort of leaders.

Bass (1960) believes that although leaders may be defined as "agents of change," leadership is to be conceived as an interaction between two persons, because whether the "agent of change" achieves his goal with respect to a second person involves activity or inactivity by the second person. At times it may even be difficult to determine who is leading whom. Bass explained:

> Certain patterns of followership behavior can be similar to leadership in that a given follower B, whose behavior A desires to change, can, in turn affect A's behavior by accepting or rejecting A as a change agent.... This circular conception of leadership-followership-leadership is consistent with our emphasis on their interactional nature (p. 5).

What factors are most important in effective leader-follower relationships? Halpin and Winer (1957) made a factorial study of hypothesized dimensions of leader behavior of air crew commanders. Using the Leader Behavior Description Questionnaire (LBDQ), they found that two factors, Consideration and Initiating Structure, accounted for 83 per cent of the total factor variance. Friendliness, mutual trust, respect, and warmth characterize the leader high in the dimension of Consideration. Getting the job done, effectiveness in organizing and directing the work, and helping his followers to understand their duties characterize the leader high in Initiating Structure. Consideration is related to group satisfaction and morale, while Initiating Structure relates to effectiveness ratings. According to Krech, Crutchfield, and Ballachey (1962, p. 476), there is substantial evidence from two studies, Feldman (1939) and Jackson (1953), "to infer that style of supervision is a cause of differences in the productivity of work groups."

A study by Della Piana and Gage (1955) which investigated leader-follower relations and demands between elementary school teachers and their pupils help raise questions concerning the interpersonal relationships of other teacher-student experiences. The researchers found significant interactive relationships between teacher characteristics and pupils' values. They hypothesized that teacher attitudes as measured with the Minnesota Teacher Attitude Inventory (MTAI) would correlate with pupils' ratings of the teacher as measured with the Leeds' "My Teacher" rating scale in different ways according to pupils' values as measured on a dimension called "affective" (valuing teacher's help with their social-emotional needs) versus "cognitive" (valuing teacher's help with achieving intellectual goals).

The results of the study supported the theory that leadership involves an interaction between the characteristics of the leader and the values of the followers. The validity of the MTAI in predicting a teacher's effectiveness was found to vary according to the value-orientation of his pupils. For pupils with strong congitive values, the teacher's MTAI score did not correlate as highly with pupils' ratings as for pupils with strong affective values. According to Della Piana and Gage (1955, p. 178), "Teachers scoring high on the MTAI will probably be better liked by pupils who have strong affective values concerning teachers."

4. Dyadic Relationships. Past research on student teaching has been aimed at questions concerning student teachers' attitude changes and dyadic relationships between the student teacher and his cooperating teacher or college supervisor.

Price (1961) found that during one semester of student teaching, attitudes of 45 student teachers measured with the MTAI shifted in the direction of those held by cooperating teachers. A significant positive correlation between cooperating teachers' and student teachers' classroom teaching performance was reported.

Perrodin (1961) also reported that cooperating teachers have an effect on changes in 113 student teachers' MTAI scores. In his study, student teachers making the highest gains in MTAI scores during student teaching were supervised by cooperating teachers who had completed a special preparation program for cooperating teachers. This suggests that differences in cooperating teachers effect differences in student teachers' attitudes. However, there is no indication as to whether these were statistically significant gains.

Using the OSCAR, Schueler, Gold and Mitzel (1965) observed three groups of elementary school student teachers. They found that the variable most clearly related to the overt teaching behavior of student teachers was that of the classroom (including the classroom culture and the cooperating teacher), and that the variable of college supervisor had little identifiable effect on student teacher behavior.

Sandgren and Schmidt (1956), Oelke (1956), and Fuller (1951) report that student teachers' MTAI attitudes changed significantly during student teaching but there was no relationship between MTAI scores and college supervisors' ratings. According to the writers, college supervisors had insignificant effect on the direction of student teachers' attitude change.

Using an attitude inventory developed to measure the verbalized attitude changes of 63 student teachers toward three educational principles, Corrigan and Griswold (1963) found that student teachers working with certain supervisors showed consistently high or positive attitude changes while those working with other supervisors showed lower or less positive attitude changes. Students showing positive attitude change perceived their college supervisor and the seminar which he directed as influencing their attitude change. Since these results tend to conflict with the findings of other studies which point to the cooperating teacher as the most influential factor in student teaching, the dyadic relationships in student teaching may be found to vary with the individual characteristics of the persons involved.

A questionnaire by Bennie (1964) found that the influence of the college supervisor also was favorable. Among 171 beginning teachers, the consensus was that the college supervisors were of slightly more help than cooperating teachers. Bennie feels that this statement may carry more significance than meets the eye, "when one considers the fact that the classroom teacher is with the student teacher daily while the campus supervisor sees the student teacher at the most once per week" (1964, p. 131).

MTAI attitudes of student teachers were found to be flexible and fluctuating by Dunham (1958) and Coss (1959). With a sample of 150 student teachers, 150 cooperating teachers, and 15 college supervisors, Dunham administered the MTAI once to all cooperating teachers and college supervisors, and three times to student teachers: at the beginning of their professional sequence, before leaving campus for student teaching, and at the completion of student teaching. From his analyses, Dunham concluded that student teachers' attitudes tended to approximate those of university instructors while on campus, but shifted in the direction of those of the cooperating teacher while student teachers worked in an off-campus situation.

Coss administered the MTAI once to 11 college supervisors and 151 cooperating teachers. He also administered the MTAI twice to two groups of elementary education majors: at the beginning of student teaching and again at the end. Fisher's t test was applied to all possible pairings of administrations of the MTAI and an analysis of co-variance was applied to all consecutive points of measurement. Coss concluded that the attitudinal levels of student teachers were flexible and fluctuating and that the leadership of cooperating teachers who were ranked "low" on the MTAI was associated with retardation in the attitudinal growth of their student teachers.

Joyce (1963) investigated student teachers' perceptions of attitudes held by those with whom they interacted, including college instructors in education and cooperating teachers. Twenty students filled out two attitude inventories, Scale for Determining Teacher Beliefs and Educational Viewpoints, as they believed their associates would. Since the perceived scores for cooperating teachers contrast in a number of ways with scores for college instructors, Joyce considered the evidence to be strongly suggestive that some students feel they are being pulled in more than one direction by their educational advisors. However, since this inference was drawn by Joyce without completely explaining how he analyzed his data, we have no basis on which to judge its significance.

5. Equilibrium Theory. From the four sections discussed so far, we have considered innovative trends in teacher education suggesting greater emphasis on candiate-supervisor-teacher relationships, the influencing effects of student-teaching members' individual differences, and the importance of understanding how members interact with one another, especially in dyadic relationships. Such considerations encourage us to focus upon the student-teaching triad as the main unit of investigation. At this point we consider theoretical bases for understanding, and thereby, finding procedures for the investigation of the triadic interpersonal behavior events in student teaching.

Equilibrium theory offers a theoretical framework to consider the alternative courses of action and the psychological resolutions open to a person faced with conflicting perceptions and to better understand his choices among them. The theory is a combination of recent contributions by Heider (1958), Newcomb (1959), Osgood and Tannenbaum (1955), and Festinger (1957). Central to all of the models is the notion that human nature abhors "incongruity-dissonance-imbalance" and continually strives to eliminate it in some way. There is a constant strain toward a balanced state of mind at all times. Heider (1959, p. 201) wrote:

> By a balanced state is meant a situation in which the relations among the entities fit together harmoniously; there is no stress towards change. A basic assumption is that sentiment relations and unit relations tend toward a balanced state.... Sentiments and unit relations are mutually interdependent. It also means that if a balanced state does not exist, then forces toward this state will arise. If a change is not possible, the state of imbalance will produce tension.

In Festinger's (1957, p. 3) words:

> The existence of dissonance, being psychologically uncomfortable, will motivate the person to try to reduce the dissonance and achieve consonance.... When dissonance is present, in addition to trying to reduce it, the person will actively avoid situations and information which would likely increase the dissonance....

The following studies illustrate the practical value of such a theoretical approach to the student-teaching triad:

Rosenburg and Abelson (1960) studied the resolution of discrepancies by subjects given dilemmatic information. The researchers found that subjects not only sought balance and consistency in resolving mental imbalance, they also sought solutions that maximized potential gain and minimized potential loss for the roles they enacted in the study. Satisfying one's values or need-dispositions played an important role in the process of mental balancing.

Gage, Runkel, and Chatterjee (1963) derived positive results in changing teacher behavior through feedback information from pupils, and concluded that their results gave support to equilibrium theory.

Chapman and Campbell (1957) studied predictability of performance in three-man teams. Predictions from attitude measures produced results which may be interpreted as consistent with equilibrium theory. At the beginning of the study, the attitudes of 142 male university students were measured on five scales. The scales were: a modification of the F-scale of Adorno et al., designed to measure authoritatian personality trends; the Superior-Subordinate Scale, designed to measure the direction of identification in situations involving conflict between a superior and a subordinate; the Alienation Scale, which reflects a tendency toward psycho-social isolation; the Identification With Discipline Scale, which reflects a tendency to readily accept discipline and to model one's behavior after those who administer it; and the Cooperation Scale, designed to reflect a feeling of belonging to groups, and a preference for doing things with other people rather than by one's self.

From the 142 students tested, 42 were chosen to participate in the experiment. One-half of the group chosen scored in the upper 25 per cent of the test scale; while the other half scored in the lower 25 per cent. Therefore, initially, the subjects represented extreme attitudes in opposite directions.

The 42 chosen subjects were divided into three-man teams to perform tasks of motor skills and of verbal skills. Each of the teams knew that it was in competition with all other teams for high scores. After each trial, but before scores were announced, each team member rated his two co-workers on a 7-point scale for desirability as a co-worker. Even though the ratings received by a person failed to correlate significantly with attitude test scores, ratings of his desirability as a teammate did correlate significantly with the success of the team of which he was a member. These results suggest that the group members, having different initial attitudes, and coming together to perform a definite task, underwent attitude changes as they attempted to meet the expectations of their teammates.

In support of this point, Cohen (1964, p. 112) wrote: " ... when groups are created for a given purpose, normative social influence increases as people strive to conform to the expectations of the group." Further, it has been suggested that an individual experiencing cognitive dissonance in group-pressure situations may find resolution through one of six modes (Krech, Crutchfield, and Ballachey, 1962, pp. 516-517): (1) blames himself for misjudgments; (2) blames the group for faulty judgments; (3) no blame, attempts to reconcile discrepant judgments; (4) accepts fact of individual differences; (5) avoids evidence of discrepancies, isolates himself; and (5) deceives himself. The authors also point out that the group-pressure situations hold two very different sources of cognitive dissonance -- discrepancy between the individual's and group's views and discrepancy between what the individual really thinks and feels and what he outwardly says or does. In the student-teaching triad, all of these modes for resolution would be possible.

Crutchfield (1962) found that groups in competition with each other show greater conformity to group standards than groups not experiencing this cooperative motivation. Individuals, not wishing to jeopardize their group's chance of success, quickly adjust to group judgment when there is any discrepancy. Thus, in Chapman and Campbell's (1957) study, those groups which were most successful were those in which each member of the triad had realized equilibrium by shifting toward cognitions consonant with those of his teammates.

In a study of interpersonal relations among three-man airplane crews, the findings of Fruchter, Blake, and Mouton (1957) also suggest the importance of equilibrium theory in explaining the functioning of triadic work groups.

A Crew Interaction Scale which consisted of 44 items concerning a variety of aspects of crew relations was administered to 90 flying officers who composed 30 intact B-47 crews in operational training. At the time of testing these crews had been in operation for approximately four to five months. Each crew member was instructed to rank each of the three members of his crew (including himself) on each of the 44 scale items. From his data analysis, Fruchter et al. (1957, p. 5) reported:

> The general conclusions from assessing the consistency of crew ratings by the Horst method were that crew members do agree in their judgments on most items and that there is satisfactory discrimination among the means of different crews.

Since it seems highly unlikely that within 30 three-man crews each member would have the same attitudes and judgments as his crewmates on the basis of chance alone, and since these crews had been working together for four or five months when tested, we can infer that members of a task-oriented group have experienced some attitude shift as a result of the normative influence of the group. As a member of such a strategic task-group, a B-47 crew member would be a prime target for cognitive disequilibrium should he experience discrepant cognitions toward his crewmates. Consequently, to meet the difficult responsibilities and demands of the tasks, each member's attitudes would tend to shift toward group consensus, providing cognitive balance for the individual and working harmony for the group.

6. Small Group Relationships. Viewing the student-teaching unit as a viable group (Miller, 1965a and 1965b) created for special objectives and activities, we can expect many common system-influences operating in student-teaching triads, such as the manner in which member participation is brought about; organization, e.g., differentiation of roles, status, functions; communication, e.g., who talks how much to whom and how; and energy processes, e.g., purposes and reward-cost outcomes. Reflection on such facets should indicate great potential for variation in triads.

Typically, each member of the triad enters the group from two distinct systems -- the student teacher and supervisor from the college and the cooperating teacher from the public school and his classroom. Usually assignments to triads are never completely voluntary and free choice in respect to choosing among a range of varying activities and familiar persons. A college supervisor is assigned a list of student teachers and certain schools in which to place them, or perhaps given the assignments already made by a director of student teaching. A cooperating teacher may or may not have the option of accepting or refusing a student teacher, but seldom does he have much information of the student teacher if he decides to take one. The relationship between the college supervisor and the cooperating teacher may or may not be patterned already through previous work together with other students. For the student, the few options usually available in choosing grade level interest and perhaps college supervisor too do not provide the student much control of the teacher to whom he will be assigned. In many institutions, the supervisor carries the greatest choice in matching the other two members. However, with the increasing number of student teachers each year, many institutions find it difficult to find sufficient classroom placements for students. As a consequence, students must often accept assignments to grade levels other than those preferred and count themselves fortunate just to be in a classroom. Of course, such problems also decrease the ability to be selective in choosing cooperating teachers.

From Thibaut and Kelley (1959), we would expect differences in reward-cost conditions for each triad member, i.e., what outcomes each expects and gets out of the relationship and what he must sacrifice or give up for such work. The student desires fulfillment of much discursive preparation in working with pupils and satisfactory grades and references, for which he expends time, effort, and probably anxiety. Both leaders desire satisfactory outcomes in the candidate's development in terms of each leader's perceptions of effective teaching performance and commitment to the profession, which may be quite diverse and conflicting. The costs for the leaders are not equivalent, for the supervisor's occupation, analogous to the student's purposes, requires that there be a functioning triad; but not so for the cooperating teacher. The reward-cost outcomes for the teacher, who already carries primary responsibilities for his class or classes, may be more wide-ranged than for the supervisor. Without the poorer consequences one would face for not continuing and completing the student-teaching period, we would expect more cooperating teachers dissolving their relationship with the triad; for as Thibaut and Kelley (1959, p. 192) wrote: "Like any group, a triad is viable only if all of its members are dependent on its continued existence...."

Also, there may be differences between institutional systems in assigning status and responsibility to each member of the triad and authority over students. Each individual's role is clear in title, but there is great potential for variation in differentiating power and authority between the designated leaders over the student teacher. If there is institutional conflict over student-teaching policies and practices, then the problems in triadic relationships become compounded.

According to Newcomb, Turner, and Converse (1965, p. 308), "a population large enough and diverse enough to afford individual choices of attraction preferences, a + + dyad will tend to 'build up' into an all-positive triad." However, without the wide population choices when "a set of three persons is forced into close association, there is a much lesser probability that the members will form an all-positive triad." The writers go on to suggest with observations from Simmel's writings that in such an arrangement one of the three dyads will be stronger in attraction than any of the other two. Chances are that a coalition between two members may form at the expense of the third member who must them attempt some resolution by "escaping," breaking up the coalition "by striking a bargain with one of the other two members," or acquiescing more to the desires of the other two in hopes of gaining their acceptance. Newcomb, Turner, and Converse concluded that:

> In formal terms, the instability of such a triad is based on the fact that it necessarily includes imbalanced dyads. The general principle is that, other things being equal, triad stability varies inversely with the number of imbalanced dyads in the triad. (p. 309)

Further support for such an approach comes from Brown's (1965, pp. 663-665) discussions of balanced and imbalanced triads involving two subjects and a third object. Heider (1958), the originator of the balance model, touched on the three-person group as an example in how the surroundings or environment can influence "unit formation" or perceptions of entities belonging together. Heider wrote:

> In the pair *m n* the unit will be weakened if another entity is added that is very similar either to *m* or to *n*. Thus, if we have the unit *m n n* the two *n*'s make a pair and *m* is the outsider. But if the added entity is dissimilar to both members of the original pair, as in *m n 5*, then the unity of the letter pair is apt to be strengthened by its difference from the figure.
>
> Theoretically, the degree of unit formation between the members of the original pair should change least if the affinities of 1 to 2, 2 to 3, and 1 to 3 are the same (taking 1 and 2 as the original pair and 3 as the new entity). If, however, 1 is closer to 3 than 1 is to 2 or 2 to 3, for example, then 1 and 3 will "gang up" against 2. The greater probability of inequality is the affinity of the different pairs might be one reason for the *precarious balance of a triad, and why organizations of two against one develop so often*. (p. 179) Underlining added by this writer.

In speculating from the above on the most probable dyadic and triadic unit-formation to be expected in the student-teaching setting, we might consider the following possibilities, using *S* for student teacher, *C* for college supervisor, and *T* for cooperating teacher.

1. When the triad is first formed, triadic members will tend to express positive attitudes toward each other, especially when each are previously unfamiliar with each other. This expectation is based on the tendency to perceive positive sentiments when there is little information.
2. After a short period of familiarity, triadic members will tend to perceive imbalance in the triad.
3. Since *S* interacts with *C* and *T* separately more than together and usually in two completely different settings, *S* will perceive the greatest amount of imbalance in the triad.
4. Because the likelihood of interaction between *S* and *T* due to greater propinquity is greater than *S* and *C* or of *T* and *C*, *S* and *T* will form greater multiplex attitudes toward each other than will form between *S* and *C* and *T* and *C*.
5. All things being equal except propinquity, *S* will perceive greater attraction to *T* than *C* for help in practice teaching.

6. Because S will have more contact and be more familiar with T and C than T with C or C with T and initiate more behavior with both, coalitions between S and T or C against the remaining member will be greater than between T and C. Or, because T and C perform leaders' roles in the professional training of S and do not interact sufficiently to produce dissonance between each other, T and C may maintain positive relations with each other despite actual educational and personality differences.
7. To justify costs expended by his relationships in the triad, T will express more reward-satisfaction at the level of ideal professional behavior than C and S.

The dyadic and triadic expectations listed above may be summed into a general expression that the triad will tend to shift toward the condition of one positive dyadic unit-formation and two negative ones over time.

Objectives

From the above review and discussion of the literature, we derive a framework for the study of student-teaching relationships. With this framework, we can broadly perceive student-teaching triads as sharing the common characteristics of other human systems but being more equivalent to each other in their special differentiation from other systems. Also, we can classify special categories of such systems as being distinctive from other categories. Further, we can approach each student-teaching triad as unique in itself. The general topics sketched in the last section frame a common set of social and personal facts or dimensions which can be found in student-teaching situations. How variations in each facet, i.e., elements of facets, combine together in any particular student-teaching triad produces each triad's uniqueness.

The present pilot study is aimed at obtaining knowledge about the interpersonal behavior events between the student teacher acting as a follower and his college supervisor and cooperating teacher acting as leaders. In this study, we concentrated our attention to the following questions: Do the characteristics of student teachers determine what characteristics of the supervisor and cooperating teacher will influence the student's evaluation and acceptance of them? What effect do characteristics of leaders and students have on the leaders' evaluation of the student's effectiveness and potential as a classroom teacher? What patterns in triadic relationships are there at the beginning and toward the end of the student-teaching period? Is the direction of influence from leader to candidate? If significant influence is found, is it positive or negative, i.e., tending to raise or lower the correlation between candidates' and leaders' behavior?

Current theories concerning leader-follower relations appear to be quite pertinent to student-teaching relationships. From the literature previously reviewed, the factors of Consideration and Initiating Structure found by Halpin and Winer (1957) to be salient characteristics of effective leaders appear to be comparable to the affective and cognitive value orientations investigated by Della Piana and Gage (1955). Thus, we draw upon the latter work for some of this study's procedures.

There has been suspicion that the subjective biases of the cooperating teacher and/or supervisor influences the interaction between student teacher and the leaders' ultimate evaluations of the student teacher. The nature of such bias may be centered in the affective need-dispositions of the students and the willingness and ability of the supervisor and cooperating teacher to perceive and satisfy the student's needs. Rapport between the student and his mentors, therefore, can be viewed as a function of the extent to which a supervisor and cooperating teacher are perceived by the student as effective in doing those things about which the student is most concerned.

Newcomb, Turner and Converse (1965, p. 273) suggested that we adapt to total situations and not just to whomever one is interacting. They explained that "any interaction situation may be said to present each participant with a triple confrontation; he must somehow come to terms, simultaneously, with each of the following:

1. His own preferences, needs, and attitudes, insofar as he considers them relevant to the situation; the preference for cognitive consistency and balance is of particular importance.

> 2. The other persons in the situation, including their demands and their preferences, needs, and attitudes as he perceives them.
> 3. Aspects of the world, apart from the interacting persons themselves, that are common to them and that are relevant in some way to the situation.

Since these three confrontations are not separate, but complexly interrelated, we develop and express "modes of adaptation -- compliance, for example, or defiance or withdrawal...." Thus, we attempt to study such interrelations in student-teaching settings.

The discussions in this chapter raised far more questions than we could attempt to answer with the limited resources of this contract. Thus, the main variables for this study were the interpersonal attitudes of triadic members which may be obtained with relative economy in expenditures of funds and time. Although pupils are not as closely interrelated within the student-teaching setting as the other members and to the same general degree of involvement and commitment, they are potentially important determiners of student teaching effects. A more ambitious study should consider a study of the "quartet" in student teaching. However, the four hypotheses which follow were felt to be fairly comprehensive of our main concerns. In testing them, the development of instruments, techniques, and research designs will help plan a more extensive study at some later date.

Hypotheses

H_1: It is hypothesized that the triadic attitude relationships in the small group involving student teacher, college supervisor, and cooperating teacher will show shift from initial contacts to concluding contacts as triadic members strive to maintain or achieve cognitive equilibrium.

H_2: Since the MTAI is a measure of a person's affective merit rather than his cognitive merit, it is hypothesized that measures of the MTAI for leaders may be said to correlate positively with students' ratings of leaders.

H_3: It is further hypothesized that the MTAI scores of the leaders correlate with students' ratings of their leaders where students value more highly the social-emotional need-mediating behavior of such leaders.

H_4: Finally, it is hypothesized that the direction of influence between leaders and student teacher will be from the leaders to the student teacher.

Chapter II

The Method

Instruments

The data for this study were derived with the following instrumentation and purposes:

Modified Minnesota Teacher Attitude Inventory. The college supervisor's attitude, symbolized by $\underline{C}_0$, and the cooperating teacher's attitude, symbolized by $\underline{T}_0$, toward young people and teaching in general; and the student teacher's attitude, symbolized by $\underline{S}_0$, toward young people and teaching in general were measured with a modified form of the Minnesota Teacher Attitude Inventory (MTAI). (See Appendix A). The Psychological Corporation gave permission to modify the MTAI to refer to young people in general, which would then include the age level of student teachers. The MTAI's standard scoring key was used to score the modified MTAI used in this study. Hereafter, the modified version of the MTAI will be referred to as Mod MTAI. Table 1 gives examples of statements as they appear in the MTAI and in the Mod MTAI.

In addition to total Mod MTAI scores, the three main MTAI factors extracted by Horn and Morrison (1965) were used to supplement measures of college supervisors', cooperating teachers', and student teachers' attitudes. Factor I: Traditionalistic Versus Modern Beliefs about Child Control, was symbolized as $\underline{C}_1$ for college supervisors, $\underline{T}_1$ for cooperating teachers, and $\underline{S}_1$ for student teachers. Factor II: Unfavorable Versus Favorable Opinions about Children, was symbolized by $\underline{C}_2$, $\underline{T}_2$, and $\underline{S}_2$. Factor III: Punitive Intolerance Versus Permissive Tolerance for Child Misbehavior, was symbolized by $\underline{C}_3$, $\underline{T}_3$, and $\underline{S}_3$.

The prime mark was used to indicate posttest measures for all measures, thus $\underline{C}_0$ would represent the college supervisor's total score on the Mod MTAI pretest and $\underline{C}_0'$ would represent the college supervisor's total score on the Mod MTAI posttest.

Table 1

Examples of MTAI Items Before and After Modification

MTAl	Mod MTAI
1. Most children are obedient.	1. Most young people are obedient.
11. Unquestioning obedience in a child is not desirable.	11. Unquestioning obedience in a child is not desirable.
31. Some children ask too many questions.	31. Some young people ask too many questions.
54. Most children lack common courtesy toward adults.	54. Most young people lack common courtesy toward adults.
61. Children are usually too sociable in the classroom.	61. Young people are usually too sociable in the classroom.

"My College Supervisor" (U_n) and "My Cooperating Teacher" (V_n).

The student teacher's attitude toward the college supervisor and the cooperating teacher, symbolized by U_1, U_2, U_3, U_0, and V_1, V_2, V_3, V_0 respectively, was measured by inventories similar to the "My Teacher" inventory developed by Leeds (1950). Except for differing titles and references in items, "My Cooperating Teacher" and "My College Supervisor" inventories were identical. The inventories were designed to measure the student teacher's evaluation of his college supervisor and his cooperating teacher on the dimensions of general merit, affective merit, and cognitive merit.

To develop such inventories, ten faculty members of the Department of Curriculum and Instruction at The University of Texas and experienced in teaching student teachers, were asked to sort items into three logically distinguishable categories. The ten judges sorted the items according to the following definitions set forth in the preliminary instructions provided them.

> (1) General merit: Items in this category should indicate whether a supervisor or cooperating teacher is liked or disliked, generally speaking, and without the specification of any particular kind of reason for the like or dislike.
>
> (2) Affective merit: Items in this category should indicate whether a supervisor or cooperating teacher is seen as effective in helping student teachers satisfy their social and emotional needs, especially through providing a warm and supportive personal relationship.
>
> (3) Cognitive merit: Items in this category should indicate whether a supervisor or cooperating teacher is seen as effective in helping the student teacher to achieve the cognitive, intellectual, subject-matter objectives of school learning.

When the first sorts were completed, items classified with 90 to 100 per cent agreement among the ten judges were retained. Since results of the sorts provided an insufficient number of items for the affective merit category with agreement at 90 per cent or better, new items for the affective dimension were added to those retained from the original list and the sorting was repeated. For the second sorts, a new group of nine judges was chosen -- five from the Department of Curriculum and Instruction and four from the Department of Educational Psychology at The University of Texas. As with the first group of judges, the results showed the judges to be highly consistent on all but a few items. These few items were chosen with the agreement of six out of nine judges.

The measures yielded by "My College Supervisor" were designated as $\underline{U}_1$ for general merit, $\underline{U}_2$ for affective merit, $\underline{U}_3$ for cognitive merit, and $\underline{U}_0$ for total merit. The same measures yielded by "My Cooperating Teacher" were designated as $\underline{V}_1$, $\underline{V}_2$, $\underline{V}_3$, and $\underline{V}_0$ respectively. Tables 2 - 4 list the items which reflect general merit, those which indicate affective merit, and those which measure cognitive merit. (See Appendix B for copies of "My College Supervisor," "My Cooperating Teacher" and their scoring keys).

"Which Do You Want Most?" The student teacher's affective or cognitive value orientation, symbolized by $\underline{F}$, was measured by a forced-choice type inventory. This inventory was designed to measure whether a student teacher valued affective or cognitive support from a college supervisor or cooperating teacher. The inventory includes seven cognitive and seven affective items. All possible pairings of affective and cognitive items were made, resulting in 49 pairs of items. Affective and cognitive items found in $\underline{F}$ are listed in Table 5. (See Appendix C for a copy of $\underline{F}$ and explanation of its scoring.)

Questionnaires. Each cooperating teacher and college supervisor also completed a pretest questionnaire indicating their years of experience as classroom teachers and as leaders of student teachers, symbolized as $\underline{Q}_T$ and $\underline{Q}_C$ respectively. In addition, cooperating teachers were asked to offer comments expressing their attitudes toward student teachers, college supervisors, and the value of the student-teaching experience. College supervisors gave information on their $\underline{Q}_C$ form indicating their years of experience in public school education as well as in college supervision. Their attitude towards student teachers in general, cooperating teachers, and the student-teaching experience were also queried.

At the posttest occasion, cooperating teachers and college supervisors completed questionnaire forms, $\underline{Q}_T'$ and $\underline{Q}_C'$, respectively. A portion of this form provided nine items to rate a student teacher from inferior to superior on a seven-point scale. In addition, comments were solicited on relationships among members in the triad. The posttest questionnaires also requested an indication of the letter grade (symbolized as $\underline{G}_T$ for cooperating

Table 2

Items from "My College Supervisor" and "My Cooperating Teacher" Inventories Used to Measure General Merit ($\underline{U}_1$ and $\underline{V}_1$)

---

4. Do most of the students like this (cooperating teacher or supervisor)?

5. Do you like this (cooperating teacher or supervisor)?

10. Would you recommend working with this (cooperating teacher or supervisor) to another student?

11. Do most students think your (cooperating teacher or supervisor) is a good one?

16. Would you like to have a different (cooperating teacher or supervisor) if you could?

17. Would you like to have this (cooperating teacher or supervisor) for a district supervisor or principal when you begin teaching?

21. Is this one of the best teachers you ever had?

25. Do students like this (cooperating teacher or supervisor)?

26. Have you usually enjoyed the conferences you have had with this (cooperating teacher of supervisor)?

27. Would you like your best friend to work with this (cooperating teacher or supervisor)?

33. If you could start all over again, would you prefer to work with another (cooperating teacher or supervisor)?

Table 3

Items from "My College Supervisor" and "My Cooperating Teacher" Inventories Used to Measure Affective Merit ($\underline{U}_2$ and $\underline{V}_2$)

1. Is this (cooperating teacher or supervisor) usually kind to you?

2. Is this (cooperating teacher or supervisor) often authoritarian and overly direct?

8. Does this (cooperating teacher or supervisor) understand your feelings?

12. Is this (cooperating teacher or supervisor) easily annoyed or bothered?

13. Are you hesitant to be yourself with this (cooperating teacher or supervisor)?

14. Does this (cooperating teacher or supervisor) usually laugh with the students when something funny happens?

18. Does this (cooperating teacher or supervisor) seem interested in your extra-curricular activities?

22. Are you afraid to ask this (cooperating teacher or supervisor) for help?

23. Would this (cooperating teacher or supervisor) speak to you when he meets you on the street?

30. Does this (cooperating teacher or supervisor) seem easy to approach?

32. Is it easy for you to go to this (cooperating teacher or supervisor) with your problems?

Table 4

Items from "My College Supervisor" and "My Cooperating Teacher" Inventories Used to Measure Cognitive Merit ($\underline{U}_3$ and $\underline{V}_3$)

3. Has this (cooperating teacher or supervisor) discussed many interesting facts and theories concerning teaching with you?

6. Does this (cooperating teacher or supervisor) really know subject matter content?

7. Do you learn a lot of things from this (cooperating teacher or supervisor)?

9. Does this (cooperating teacher or supervisor) help you learn?

15. Does this (cooperating teacher or supervisor) really know how to teach?

19. Does this (cooperating teacher or supervisor) make difficult things easy to understand?

20. Does this (cooperating teacher or supervisor) challenge you to think for yourself?

24. Does this (cooperating teacher or supervisor) explain his instructions clearly?

28. Is this (cooperating teacher or supervisor) up-to-date on innovations in educational theory and methods?

29. Has this (cooperating teacher or supervisor) suggested teaching aids or readings to you that have been beneficial in your teaching?

31. Does this (cooperating teacher or supervisor) give good reasons for his ideas and suggestions?

Table 5

Items in "Which Do You Want Most" Inventory, F

Items for affective needs

Is fair to everyone.
Is nice to me even if I do something wrong.
Recognizes our social-emotional needs.
Doesn't hurt my feelings.
Is friendly to me.
Makes me feel I'm liked.
Doesn't make me afraid.

Items for cognitive needs

Explains so I can understand.
Knows subject matter content.
Gives me enough work to do.
Teaches me lots of things.
Makes ideas clear.
Knows how to teach.
Helps me learn.

teachers' rating and $\underline{G}_C$ for college supervisors' rating of student) the respondent felt the student teacher had earned during the student-teaching period. (See Appendix D for copies of these forms.)

Classroom Observation Record. Ryan's method (Ryan, 1960) for evaluating pupil and teacher classroom behavior, employing The Classroom Observation Record (See Appendix E for copy) was used by impartial observers specially trained in objective observation techniques. Ryan's "Record" provides a seven-point scale between such bipolar adjectives as "Apathetic - - - Alert, Obstructive - - - Responsible," for evaluating pupils' classroom behavior, and a seven-point scale between such bipolar adjectives as "Partial - - - Fair, Autocratic - - - Democratic," for evaluating teacher behavior. Four pairs of adjectives are provided for evaluating pupil classroom behavior, and 18 pairs of adjectives are presented for evaluating teachers' classroom behavior.

Sample

The subjects for this study were recruited from the population of elementary and secondary student teachers at The University of Texas during the spring semester of the 1965-1966 school term, their cooperating teachers, and their college supervisors.

Randomization. Several circumstances prevented the utilization of a formal randomization procedure in selecting the subjects for this study. While plans for the study were based on a sample of at least 50 elementary and 50 secondary student teachers, it was not possible to exceed these numbers to a very large extent because of a limited operational budget. A weighty item was the honorarium provided for each cooperating teacher and each college supervisor who completed both pre- and posttest instruments.

Seminars of elementary student teachers were chosen by the Director of Student Teaching at The University of Texas on the basis of enrollment to provide as near to 50 elementary student teachers as possible. This method of selection provided seminars that did not include any elementary college supervisors who were regular staff members. The elementary supervisors of seminars participating in the study were interns or rotating teachers and had more recently participated in public school classrooms than had regular staff members.

It was hoped that a seminar from each of the secondary content areas could participate in the study. However, since each subject area at the secondary level conducts its student-teaching program to best fit its needs, some areas had programs (such as multiple supervisors or unusual lengths of the student-teaching period) which precluded their participating in the study. Those seminars selected from areas having several groups, English, social studies, and math, were chosen on the basis of seminar size. In other subject areas, the seminar participating was the only seminar in that area. Although the secondary seminars chosen provided four college supervisors who were regular staff members, only one of the supervisors had a doctoral degree, while among secondary supervisors not participating in the study there were four who had doctorates.

There were no circumstances to suggest that the student teachers and cooperating teachers participating in the study were in any way atypical of the total population for The University of Texas student-teaching programs. However, because of the aforementioned discrepancies between the college supervisors participating and those not participating, these subjects may not be representative of the population from which they were drawn. Thus, the possibility of bias on the part of the college supervisor sample limits the generalizability that can be made from the data for college supervision.

The 124 student teachers in this study were assigned by the Director of Student Teaching to schools within the Austin Independent School District and to one elementary school in the Del Valle Independent School District. The Austin schools included five elementary schools, five junior high schools, three senior high schools, and one senior-junior high school housing Grades 7 through 12. These schools are so widely scattered throughout the city of Austin that they include young people from every socio-economic class and of varied ethnic and racial origins. The Del Valle school draws from a district including a large rural population, Bergstrom Air Force Base, and a sizable Spanish-speaking community.

The grade levels to which elementary student teachers were assigned and the subject areas in which secondary student teachers taught are listed in Table 6 which follows:

Table 6

Student Teacher Assignments

Elementary Candidates

Grade Level	N
1	10
2	9
3	8
4	6
5	5
6	6
	44

Secondary Candidates

Subject	N
Art	2
Business Education	9
English	17
Foreign Language	12
Math	15
Music	11
Social Sciences	14
	80

Student teachers. Of the 124 student teachers participating in this study, 44 were elementary education majors and 80 were preparing to teach at the secondary level. Differences in attitudes, as measured by the MTAI, towards children and school in general should be expected between student teachers teaching at the elementary level and those teaching at the secondary level. Cook, Leeds, and Callis (1951, p. 6) report:

> The MTAI has consistently shown significant differences between the attitudes of primary teachers, intermediate grade teachers, high school academic teachers, and teachers of various special subject fields (art, music, physical education, and commercial). The order of the differences is as indicated, with the primary teachers high and the teachers of special fields low. These differences are present at the time education students begin professional courses and at the time they graduate with a teaching certificate, as well as among experienced teachers in the field.

Beamer and Ledbetter (1957) also found that elementary teachers scored significantly higher on the MTAI than did secondary teachers; and further, that among elementary teachers MTAI scores continued to increase with experience, the highest scores being for teachers who had taught more than 15 years. Secondary teachers' MTAI scores, on the other hand, decreased with years of experience, their highest scores being for teachers with only one year of experience. The results of other studies, Cook, Hoyt, and Eikaas (1956); Hoyt and Cook (1960); Day (1959) indicate that elementary teachers' attitudes also shift, during actual teaching experience, in a more negative direction.

Consistent with findings at the national level are those of Veldman (1959, 1961, 1964) concerning elementary education majors at The University of Texas. As sophomores, elementary education majors at The University of Texas were found to have a much more positive attitude toward children than secondary education majors or students majoring in Arts and Sciences who plan to teach at the secondary level, and continued to score higher on positive attitudes toward children throughout their training period.

Other differences between elementary education majors and those planning to teach at the secondary level which Veldman (1959, p. 4) reported are:

1. They (elementary majors) are typically less flexible psychologically.
2. They are more self-controlled and non-impulsive.
3. They tend to achieve especially well in situations where conformance is considered a positive behavior.

Veldman (1964) later reported that during their professional sequence, elementary education majors rise considerably in superego control, social adjustment, and grade-point average as compared with secondary education majors; while secondary education majors score higher on rational autonomy, social dominance, and general mental health during their professional training period.

In the population from which the sample was drawn for this study, elementary students, as compared with the population's secondary students, had been found to have different attitudes, personalities, and levels of academic achievement. Because such differences are consistent with those found by other studies, this sample can be considered fairly typical in these respects of student teachers in general.

In a thesis written under the direction of this project director, Wiest (1966) reported that student teachers at The University of Texas generally tend to be from upper middle-class backgrounds. The high rate of scholastic failure among freshman and sophomore students at the University indicates that at least average academic ability can be assumed for the junior and senior students involved in student teaching. In addition, student teachers at The University of Texas appear to be about average in relation to national norms on such tests as the Graduate Record Examination and the National Teacher Examination. In relation to the students' commitment to teaching as a career, Wiest (1966, p. 20) wrote:

> The students are professionally oriented to a degree, although most elementary education majors admit that they come to the University to look for a husband too. They frequently look on their profession as "insurance" in case they need to work to support their future families.

Both elementary education majors and secondary education majors entering student teaching must have an overall 1.25 grade point average (a "C" grade = 1.00) and must have junior or senior standing. Although other professional courses are required for graduation and certification, these are the only prerequisites for those entering student teaching in elementary education. Those in secondary education must also have a 1.5 grade point average in one of their two teaching fields, and have completed six hours of advanced work in the subject area in which they will be student teaching.

Each of the student teachers worked with only one college supervisor and one cooperating teacher throughout the four and one-half months of the student-teaching semester. The student teachers had an opportunity for daily interaction with their cooperating teachers, less often with college supervisors. The college supervisors met their student teachers once each week throughout the semester in one to two hour seminars and conducted one individual conference per week, lasting from 20 to 30 minutes, with each student teacher. In addition, student teachers were observed while they worked with learners 30 to 60 minutes each week by their supervisors.

Cooperating teachers. Any classroom teacher with at least one year of teaching experience in the Austin schools may be chosen as a cooperating teacher. Although a classroom teacher may decline to accept a student teacher, the administration of the Austin Independent School District urges classroom teachers to cooperate fully with The University of Texas in their student-teaching program.

All cooperating teachers in elementary education are chosen by the Director of Student Teaching. Because of the large numbers of elementary student teachers the Director must place each semester, his chief concern must be finding a classroom for each candidate. Therefore, his criteria for selecting cooperating teachers are availability and eligibility (at least one year of teaching experience). Cooperating teachers for secondary student teachers are chosen by the college supervisors in the separate content areas. Most cooperating teachers are chosen on the basis that they are willing and have a class available at an hour which hits a student teacher's time block for student teaching as well as the college supervisor's time schedule. However, experienced supervisors report they try to avoid teachers whom they have found uncooperative in the past. Thus, from the manner in which triads are formed at The University of Texas, we would expect considerable opportunity for triadic imbalance at the start of members' relationships.

Elementary teachers participating in this study reported from 1 to more than 40 years of teaching experience with the average number of years being 14.5. These teachers reported having worked with varying numbers of student teachers ranging from none to more than 20, as well as having worked with up to 14 different college supervisors.

The number of years of teaching experience reported by secondary teachers in this study also ranged from 1 to more than 40 with the average number of years being reported as 12.7. Although 9 of the secondary teachers reported never having worked with a student teacher before, the remaining 68 recalled assisting in the education of varying numbers of student teachers amounting to more than 20. Secondary teachers' past experience in cooperating with college supervisors ranged from no previous experience to having worked with more than 20. Detailed information from cooperating teachers' questionnaires is listed in the print-out of the master deck of IBM cards used for processing this study's data (See Appendix E).

As pointed out by an earlier reference to the Beamer and Ledbetter (1957) study, not only do elementary teachers score significantly higher on the MTAI than do secondary teachers, but elementary teachers' MTAI scores continue to increase with years of experience while secondary teachers' scores tend to decrease. Therefore, cooperating teachers with such wide ranges of experience in teaching and in working with student teachers and their supervisors provided a heterogeneous sample of cooperating teachers in respect to these factors.

College supervisors. Of the college supervisors participating in this study, four worked in elementary education and eight taught at the secondary level. Classification of the college supervisors according to position on The University of Texas staff is shown in Table 7. The small N of 12 supervisors obtained for this study seriously limits analyses with their data. Restrictions in the use of data from the supervisor sample will be discussed when relevant in the next chapter.

The term "intern" applies to an individual who is participating in the internship program at the University. This program provides part-time employment as a Teaching Associate for doctoral students in the Department of Curriculum and Instruction. A "rotating" teacher is one employed by The University of Texas to supervise student teachers for one year only while on leave-of-absence from the Austin Independent School District. The range of teacher experience and of supervisory experience for participating college supervisors is shown in Table 7.

Supervisors of elementary majors had from 11 to 20 years of public school teaching experience, the average number of years being 14.5. Each of these four supervisors had had only one or two years in college supervisory work and had supervised from 8 to 36 student teachers in the past.

Supervisors in secondary education reported from 4 to 28 years of public school teaching experience, the average number of years of experience being 12. Having spent from 1 to 20 years in college supervision, the secondary supervisors had been responsible for 18 to as many as 500 student teachers each. Several factors operate to limit the representativeness of the supervisor group. For 5 of the 12 supervisors, this was their first year of college supervisory work; two-thirds of the group were not regular staff members; 6 had only one-year appointments. It seems reasonable to assume that attitudes held by such supervisors may not be representative of supervisors in general and might serve to bias any results dependent on measures of college supervisors' attitudes, or student teachers' attitudes towards college supervisors. Thus, we claim only suggestive carry-over of our findings to other student-teaching groups. The reader can best decide for himself how important these sampling problems need to be considered in his use of our results.

Procedures

Administration of Instruments. Each of the instruments described above was administered on two occasions: (1) $\underline{C}_0$, $\underline{S}_0$, and $\underline{F}$ at the first meeting of the student-teaching seminars participating in the study; $\underline{U}_0$ and $\underline{V}_0$ at the second meeting of the student-teaching seminars; and (2) $\underline{C}_0'$, $\underline{S}_0'$, $\underline{F}'$, $\underline{U}_0'$, and $\underline{V}_0'$, during the 16th week of the student-teaching semester. While students were administered their inventories in their seminar meeting rooms, college supervisors returned to their offices to self-administer inventories.

Table 7

College Supervisors' Rank and Teaching Experience

Seminar	Rank	Years in Public School Teaching	Years in College Supervising	Number of Student Teachers Supervised
1	Intern	11	2	36
2	Intern	15	2	15
3	Rotating Teacher	20	1	19
4	Rotating Teacher	12	1	8
5	Rotating Teacher	14	1	20
6	Regular Staff	7	20	500
7	Regular Staff	4	4	40
8	Regular Staff With One Year Appt.	28	1	18
9	Rotating Teacher	23	1	18
10	Regular Staff	6	6	110
11	Regular Staff With One Year Appt.	8	5	25
12	Regular Staff	2	3	45

Pretest Mod MTAI, $\underline{T}_0$, and questionnaire, $\underline{Q}_T$, were mailed to the cooperating teacher for self-administration during the student teacher's first week of assignment to them. Included with the $\underline{T}_0$ and $\underline{Q}_T$ materials we sent to cooperating teachers was a letter explaining the following: (1) the purpose of the study; (2) the school district's approval of the research project; (3) the extent of the cooperating teacher's involvement, and (4) the amount of the honorarium being offered for each administration of test materials. As with all other subjects in this study, teachers were assured that the identity of test results would be kept confidential. Any teacher not wishing to participate was asked to return test materials in the stamped, self-addressed envelope provided. Teachers electing to participate were asked to mark and return materials within a week.

The posttests, $\underline{T}_0'$, and the questionnaire, $\underline{Q}_T'$, were mailed to cooperating teachers for self-administration during the 16th week of the student-teaching semester. In an accompanying letter, we expressed appreciation to the cooperating teachers for their cooperation. The letter urged them to return completed test materials within a week.

When administration of posttests was concluded, complete data had been obtained from 44 elementary triads and 80 secondary triads, with subjects totalling 124 student teachers, 124 cooperating teachers, 4 elementary college supervisors, and 8 secondary college supervisors. Of those measured at the pretest occasion, 95 per cent remained as final participants.

Arrangements were made for impartial observers to observe the student teachers' classroom teaching and interaction with learners. The observers were trained in objective observation techniques and were unaware of the results found in attitude measurements. Ryan's (1960) Classroom Observation Record for evaluating learners' and teachers' classroom behavior was used in these observations.

Reliability and Rectilinearity of Measurements. The reliability of all measures on each occasion was estimated by using the Spearman-Brown formula (Guilford, 1950, pp. 492-493) and the Guttman Formula (Guttman, 1945). In addition, the Horst formula (Horst, 1949) was used to estimate the agreement of student teachers on pre- and posttest measures of $\underline{U}_1$, $\underline{U}_2$, $\underline{U}_3$, and $\underline{U}_0$. The stability of the variables was estimated in terms of the "test-retest" correlations between them.

Rectilinearity was tested by inspection of scatter plots.

Test of Hypothesis One. On the basis of student teacher's attitudes measured by U_0, V_0, U_0', and V_0' in reference to the measures' medians, we classified a student teacher's attitude toward each of his two leaders as positive if his score for a leader was above the median or negative if the score was below the median. For the attitude of each leader toward each of the other two members of the triad, we ascertained whether their attitudes were positive or negative from their questionnaire responses to Q_T, Q_C, Q_T', Q_C'.

In the preliminary planning for this study, analyses were to be conducted with questionnaire responses for leaders' attitudes toward each other, Mod MTAI measures for leaders' attitudes toward student teachers, and pre- and posttest U_n and V_n measures for student teachers' attitudes toward leaders. Although the Mod MTAI (as discussed before, MTAI items were modified to refer to "young people" and so allow reference to student teachers) appeared to provide reliable measures, it was decided that leaders' questionnaire responses would provide more salient and more directly related attitudes of leaders toward student teachers. Thus, each leader's attitude toward the other two members of the triad was ascertained from the leader's questionnaire responses.

In analyses for H_1, a dyad was considered positive (+) if each member's attitude toward the other was positive, (+ +). A dyad was considered negative (-) if members reported negative attitudes toward each other, (- -), or contrasting attitudes toward the other, (+ -) or (- +). Thus, a triad can be viewed as balanced (in a state of equilibrium) or unbalanced (in a state of disequilibrium) from its combination of dyadic relationships. Frequencies of the following types of triads were tabulated at pre- and posttest occasions:

(1) Balanced triad composed of all positive dyads: (+ + +).

(2) Balanced triads with two negative dyads: (+ - -), (- + -), and (- - +).

(3) Unbalanced triad composed of all negative dyads: (- - -).

(4) Unbalanced triads with one negative dyad: (+ + -), (+ - +), and (- + +).

Perhaps another method of classification would be to differentiate between each member's perceptions of the other two members and examine triad relationships as perceived from each individual member. But then we would focus more upon individuals' perceptions and individuals' patterns of attitude shift. Such concern can be answered in part by testing H_4 which will provide indication of direction and source of attitude change in dyads. In testing H_1, therefore, we restrict our attention to the three-way relationship of dyadic types and the equilibrium patterns within the triad. We have begun work on the other analyses, but such work will not be reported here.

Test of Hypothesis Two. Student teacher-cooperating teacher dyadic relationships were analyzed by correlating all student teachers' variables with cooperating teachers' variables as measured by pre- and posttest Mod MTAI ($\underline{T}_n$) and "My Cooperating Teacher" inventory ($\underline{V}_n$). H_2 hypothesized that cooperating teachers' $\underline{T}_n$ attitude measures will correlate positively with student teachers $\underline{V}_n$ measures. Intercorrelations, means, and standard deviations computed separately for elementary and secondary student-teaching sub-samples were also examined.

Test of Hypothesis Three. Correlations between all cooperating teacher Mod MTAI variables ($\underline{T}_n$) and all student teacher attitudes toward their cooperating teachers ($\underline{V}_n$) were examined for the 27% of student teachers having the highest $\underline{F}$ and $\underline{F}'$ scores and for the 27% of the student teachers having the lowest $\underline{F}$ and $\underline{F}'$ scores. We derive the rule for 27% estimations from Kelley (1939).

Particular attention was given to $\underline{r}_{T_n V_2}$ and to $\underline{r}_{T_n' V_2'}$, i.e., correlations of cooperating teachers' attitudes toward young people and teaching in general ($\underline{T}_n$) and student teachers' attitudes toward cooperating teachers' affective merit ($\underline{V}_2$). Special attention was also given to $\underline{r}_{T_0 V_3}$ and $\underline{r}_{T_0' V_3'}$, in groupings by $\underline{F}$ and $\underline{F}'$ to ascertain the determination of cognitive merit ratings ($\underline{V}_3$ - V_3') by student teachers' need-dispositions. As hypothesized in H_3, correlations with $\underline{V}_2$ will be greater for student teachers having the lowest $\underline{F}$-score (indicating an affective orientation) than for student teachers having the highest $\underline{F}$-score (indicating a cognitive orientation).

Thus, four intercorrelations were computed for these analyses. With pre- and posttest $\underline{F}$-scores, two low 27% groups (rounded off to 35 student teachers) were classified as the most affectively-oriented student teachers for these correlations; and the two high 27% groups were classified as the most cognitively-oriented student teachers.

Test of Hypothesis Four. The Frequency-of-Change-in-Product-Moment (FCP) technique developed by Yee and Gage (1966) was used to determine the source and direction of influence in attitude changes among cooperating teachers and student teachers during the student-teaching period.

After converting raw scores to standard scores [$z = (X - \overline{X})/s$], we determined the direction of influence for each dyad involving student and cooperating teacher by seeing if its cross-product of same-occasion posttest z scores is more positive or negative than the cross-product of pretest z scores. If the cross-product of posttest z s, $z_{T_0'} z_{S_0'}$, was algebraically greater than pretest z s, $z_{T_0} z_{S_0}$, the direction of influence was deemed *congruent*, i.e., the relationship between the cooperating teacher and the student teacher helped make the overall correlation more positive. If the cross-product of posttest z s was algebraically lower, the direction of influence was considered *incongruent*, i.e., the relationship between the cooperating teacher and his student teacher helped make the overall correlation more negative. This manner of assessing direction of influence is logically connected with the basic formula for product-moment correlation coefficients, that is, $r = \frac{\Sigma z_x z_y}{N - 1}$.

The source of influence was determined in each dyad by examining cross-lagged z products, $z_{T_0} z_{S_0'}$, and $z_{S_0} z_{T_0'}$. When direction of influence was congruent, the premeasure of the most positive product was classed as source, i.e., it helps to increase the cross-lagged correlation where effector's z score is from pretest occasion and z score of party influenced is posttest. When direction of influence was incongruent, the premeasure of the more negative product was classed as source, i.e., it helps to increase the cross-lagged correlation where effector's z score is from posttest occasion and z score of the one influenced is pretest.

The following frequencies were then tabulated: TC = cooperating-teacher influence causing the student teacher to shift congruently, i.e., to raise the correlation; TI = cooperating-teacher influence causing student teacher to shift incongruently, i.e., to lower the correlation between T_0 and S_0; SC = student teacher influence causing the cooperating teacher to shift congruently; and SI = student teacher influence causing the cooperating teacher to shift incongruently. Chi squares with Yates' correction for continuity were computed on 2 x 1 contingency tables for the following hypotheses (one-tailed, 1 df, $\underline{x}^2$ of 2.71 for $p < .05$, 3.84 for $p < .01$):

H_{4a}: TC + TI > SC + SI

H_{4b}: TC > SC

H_{4c}: TC > SI

Chapter III

Results and Discussion

Reliability of Measurements

Since this study is concerned with attitudinal relationships among student teachers, cooperating teachers, and college supervisors, it is important to ascertain whether variances in scores for the three distinct groups may be considered true variances, or, are due to random errors of measurement.

In the study of attitudes, unidimensional and homogeneous measures of attitudes are desirable so that obtained measurements can be better understood and applied to purposes for which they were intended. One way to measure the homogeneity of an instrument is to measure its internal-consistency reliability, since, "High internal-consistency reliability is, in itself, assurance that we are dealing with a homogeneous test..." (Guilford, 1965, p. 450).

By using the odd-even, split-half method of test self-correlation, an "on-the-spot" estimate of reliability may be obtained. Guilford (1965, p. 452) feels that this measure of internal consistency "comes closest to the basic idea of reliability," because "it tells us something of how closely the obtained score comes to the score the person would have made at this particular time if we had had a perfect measuring instrument."

Splitting by odd and even halves is considered a fair one, because the subject's physical, mental, and emotional condition as well as the surroundings in which the subject is tested are essentially the same as he tries each odd and even item of a test. In this study, reliability estimates of the internal consistency of measures were found by two formulas: (1) split-half correlations between scores on odd-and-even numbered items, adjusted with the Spearman-Brown formula; and (2) split-half correlations between odd-and-even scores, assumed to be independent trials, estimated with the Guttman Formula (1945).

An assumption underlying the Spearman-Brown formula is that the two halves being correlated are comparable; that they have similar means, standard deviations, and skewness of distributions. The Guttman formula was used to provide reliability estimates that would not be under-estimated because of failure to satisfy the assumptions of the Spearman-Brown formula.

Table 8 presents the reliability coefficients calculated with the two formulas.

It is readily apparent that the reliability coefficients yielded by the two formulas are in extremely close agreement. Coefficients calculated by the two formulas are exactly the same for one-half of the 24 measures obtained from the Mod MTAI.

The coefficients obtained with the Spearman-Brown formula applied to total Mod MTAI measures are sufficiently high to assure internal consistency in the responses of each of the three groups to the attitude inventory. The coefficients of .68 for pretest responses and .92 for posttest responses for college supervisors, .90 and .91 for cooperating teachers, and .85 and .91 for student teachers approximate, or, in some instances are exactly the same, as the coefficient of .91 reported by Leeds (1950) and .93 by Cook, Leeds, and Callis (1951) using this same procedure. The drop to .68 for the pretest measures of college supervisors may be due to random fluctuation caused by the small N of 12 which seriously limits the usefulness of this group's data. It is not, however, low enough to cast any serious doubt on the adequacy of the responses for research purposes.

The coefficients of .65 and .89 for college supervisors, .85 and .91 for student teachers, and .89 and .91 for cooperating teachers obtained by using the Guttman formula with responses to the Mod MTAI approximate the coefficient of .898 reported by Della Piana (1953), who used the same procedure.

With the Spearman-Brown formula, this study's reliability estimates for pre- and posttest Mod MTAI Factor I measurements were respectively .58 and .83 for college supervisors, .83 and .88 for cooperating teachers, and .77 and .89 for student teachers. These coefficients, with the exception of college supervisors' pretest measures, approximate Yee's (1966) coefficients in the .90's for the three factor of the standard, non-modified MTAI. Once again, the small N of 12 for college supervisors may have been responsible

Table 8

Split-Half Reliability Coefficients for Student Teachers', Cooperating Teachers', and College Supervisors' Measures

Measure	Spearman-Brown Formula*	Guttman Formula**
Mod MTAI: $\underline{C}_0$	.68	.65
$\underline{C}_0'$	.92	.89
$\underline{C}_1$	.58	.57
$\underline{C}_1'$	.83	.77
$\underline{C}_2$	.20	.17
$\underline{C}_2'$	.80	.79
$\underline{C}_3$	-.02	-.02
$\underline{C}_3'$	-.03	-.03
$\underline{T}_0$	.90	.89
$\underline{T}_0'$	.91	.91
$\underline{T}_1$	.83	.82
$\underline{T}_1'$	.88	.88
$\underline{T}_2$	.51	.50
$\underline{T}_2'$	.67	.62
$\underline{T}_3$	.69	.69
$\underline{T}_3'$	.66	.66
$\underline{S}_0$	.85	.85
$\underline{S}_0'$	.91	.91
$\underline{S}_1$	.77	.75
$\underline{S}_1'$	.89	.89

Table 8 (continued)

Measure		Spearman-Brown Formula*	Guttman Formula**
Mod MTAI, cont.:	$\underline{S}_2$	.54	.53
	$\underline{S}_2'$	.76	.76
	$\underline{S}_3$	.64	.64
	$\underline{S}_3'$	.70	.70
"My College Supervisor":			
	$\underline{U}_1$	.76	.74
	$\underline{U}_1'$	.88	.85
	$\underline{U}_2$	.83	.82
	$\underline{U}_2'$	.91	.87
	$\underline{U}_3$	.92	.91
	$\underline{U}_3'$	.97	.95
	$\underline{U}_0$	.91	.91
	$\underline{U}_0'$	.93	.92
"My Cooperating Teacher":			
	$\underline{V}_1$	.80	.80
	$\underline{V}_1'$	.79	.79
	$\underline{V}_2$	.84	.79
	$\underline{V}_2'$	.90	.87

Table 8 (continued)

Measure	Spearman-Brown Formula*	Guttman Formula**
"My Cooperating Teacher", cont.:		
V_0	.93	.92
V_0'	.94	.94

$$* \; r_{tt} = \frac{2r_{hh}}{1 + r_{hh}}$$

$$** \; r_{tt} = 2\left(1 - \frac{S_o^2 + S_e^2}{S_t^2}\right)$$

for the low estimate of .58. As can be seen in Table 8, the coefficients obtained with the Guttman Formula for pre- and posttest Factor I measurements closely parallel those derived by the Spearman-Brown Formula.

Coefficients obtained for Factor II measurements are lower than those for Factor I. Respective Spearman-Brown pre- and posttest coefficients of .51 and .67 for cooperating teachers' measures and .54 and .76 for student teachers' measures are sufficiently high to assure reliability for research purposes. Respective pre- and posttest Guttman coefficients of .50 and .62 for cooperating teachers and .53 and .76 for student teachers are almost identical with the Spearman-Brown coefficients. There is, however, notable difference between the coefficients for pre- and posttest measures of Mod MTAI Factor II for college supervisors. The Spearman-Brown formula yielded coefficients of .20 and .80. while the Guttman formula repeats the obvious difference with coefficients of .17 and .79.

Split-half reliability estimates for Mod MTAI Factor III attitude measurements are exactly the same by both formulas. Respective pre- and posttest coefficients of .69 and .66 for cooperating teachers' measures, and of .64 and .70 for student teachers' measures are sufficiently high for research purposes. However, the coefficients of -.02 and -.03 for college supervisors' measures are a clear indication that these are not reliable measures.

Split-half reliability estimates for $\underline{U}_n$ and $\underline{V}_n$ measurements were also calculated. Results calculated with the two formulas are equivalent. All of the coefficients were highly positive, with estimates for posttest measures being higher in every case than were those for pretest measures. Coefficients of .90 and .92 for $\underline{U}_0$ and $\underline{U}_0'$, and of .90 and .94 for $\underline{V}_0$ and $\underline{V}_0'$ indicate that these two instruments are homogeneous and unidimensional, providing reliable measures of student teachers' attitudes toward their college supervisor and cooperating teacher.

Results of our reliability tests indicated that the instruments used in this study were internally consistent and did produce attitude relationships. Some low coefficients of reliability for college supervisors' variables were probably caused by the small N of 12 and not attributable to any weakness of the instrument used to measure their attitudes.

Reliability of Students' Ratings of College Supervisors. Horst coefficients for student teachers' evaluations of supervisors' merit are given in Table 9. Coefficients of .74 and .72 for $\underline{U}_2$ and $\underline{U}_2'$, respectively, and of .72 for $\underline{U}_0$ and $\underline{U}_0'$ indicate that student teachers agreed fairly well on college supervisors' affective merit, cognitive merit, and overall merit.

A Horst coefficient of .33 for $\underline{U}_1$ suggests weak agreement among student teachers regarding college supervisors' general merit; at the posttest occasion a coefficient of -.16 for $\underline{U}_1'$ suggests that student teachers were in active disagreement regarding the general merit of college supervisors. However, closer examination of the computations required by the Horst formula shows that $\underline{U}_1$ and $\underline{U}_1'$ coefficients were low not because of less agreement among raters, but because of greater agreement between raters and seminars. For the numerator, the summation of inter-seminar variability divided by N produces a result of .84 for $\underline{U}_1$ and 1.16 for $\underline{U}_1'$. The respective denominators were 1.25 and 1.00, showing very narrow variability between seminars. As a comparison, the numerator for $\underline{U}_3$ was 1.25 and the denominator was 6.00.

Such outcomes make the Horst coefficient less of a definite index for our purposes where at times variance of ratings received within seminars approximate the variance between seminars. However, examination of such results do confirm that students' attitudes toward their supervisors in $\underline{U}_n$ and $\underline{U}_n'$ tend to agree reliably.

Stability of Measures. Table 10 presents the coefficients of stability for cooperating teachers, student teachers, and supervisors participating in the study.

In total Mod MTAI measures, student teachers were the least stable of the three groups with a coefficient of .58. Coefficients of .53 for total scores on "My College Supervisor," and .57 for total scores on "My Cooperating Teacher" also reflect the tendency of student teachers' attitudes to change during the student-teaching semester.

These differences in the stability of student teachers' attitudes as compared with the attitudes of college supervisors and cooperating teachers are in keeping with the findings of previous research (Getzels and Jackson, 1963). Such findings have indicated that as teachers become more experienced,

Table 9

Horst Coefficients* for Student Teachers' Attitudes Toward Their College Supervisors ($\underline{U}_n$) (N = 12)

Measure	Horst $\underline{r}$'s	
	Pretest	Posttest
$\underline{U}_1$	.33	-.16
$\underline{U}_2$	.74	.72
$\underline{U}_3$	.79	.61
$\underline{U}_0$	.72	.72

$$* \underline{r} = 1 - \frac{\frac{\Sigma \frac{\sigma_i^2}{n_i - 1}}{N}}{\sigma_M^2}$$

Where,

N = the number of persons rated,

n_i = the number of measures for person i,

M_i = the mean of these measures for person i,

σ_i = the standard deviation of these measure for person i,

σ_M = the standard deviation of the mean ratings received by the N persons.

Table 10

Pre- and Posttest Means, Standard Deviations, and Coefficients of Stability for 124 Cooperating Teachers', 124 Student Teachers', and 12 College Supervisors' Attitude Measurements

	Pretest		Posttest		
Measure	Mean	S. D.	Mean	S. D.	Coefficient of stability
Mod MTAI					
$\underline{C}_0$	65.60	25.48	55.36	27.55	.90
$\underline{C}_1$	10.04	4.38	6.69	4.86	.11
$\underline{C}_2$	14.05	4.89	10.78	5.81	.54
$\underline{C}_3$	14.28	3.37	13.39	3.99	.53
$\underline{T}_0$	32.00	31.22	32.95	33.29	.85
$\underline{T}_1$	4.60	8.01	4.99	8.73	.78
$\underline{T}_2$	9.16	5.24	9.27	5.54	.67
$\underline{T}_3$	8.56	6.86	8.48	6.33	.70
$\underline{S}_0$	32.57	27.30	31.75	34.72	.58
$\underline{S}_1$	6.57	6.03	5.74	8.27	.56
$\underline{S}_2$	8.28	5.57	9.10	6.60	.49
$\underline{S}_3$	6.77	6.11	5.66	6.47	.50

Table 10 (continued)

Measure	Pretest		Posttest		
	Mean	S. D.	Mean	S. D.	Coefficient of stability
"My College Supervisor"					
$\underline{U}_1$	19.57	3.16	19.98	3.57	.40
$\underline{U}_2$	17.29	3.95	19.27	4.31	.39
$\underline{U}_3$	17.82	4.81	17.55	5.91	.53
$\underline{U}_0$	54.69	9.98	56.79	12.26	.53
"My Cooperating Teacher"					
$\underline{V}_1$	19.69	3.35	19.79	3.65	.53
$\underline{V}_2$	17.74	4.67	18.63	4.76	.53
$\underline{V}_3$	18.44	4.33	18.52	5.35	.51
$\underline{V}_0$	55.87	11.17	56.94	12.35	.57

their attitudes toward school and children tend to stabilize; whereas, the attitudes of student teachers and pre-service teachers in general are likely to shift, usually in the more negative direction.

In summary, these reliability tests indicate that reliable measures for cooperating teachers and student teachers were obtained. Considering their N of 12, we felt the uncertain results for college supervisors were not due to any problem of instrumentation or testing procedures.

Rectilinearity on the relationship of measures for cooperating teachers, student teachers, and supervisors was examined by inspection of scatter plots. Paired scores tended to fall along a straight line, and no curvilinear relationship was observed in any scatter plot. Therefore, use of the product-moment coefficient of correlation (r) was deemed justified.

All pre- and posttest scores are presented in Appendix E according to the code system developed for the study's data processing procedures.

Tests of Hypotheses

Hypothesis One (H_1)

The theoretical framework for this study was primarily based on equilibrium theory and suggestions from writings on small group interaction. Sections in Chapter I elaborate upon such guidelines.

In brief summary, an individual faced with a dilemmatic situation experiences cognitive dissonance and will tend to shift his attitudes toward whichever resolution of the dilemma restores consonance with the least amount of cognitive reorganization. Each member of the student-teaching triad may experience cognitive dissonance as a result of conflict in his attitudes toward the other two triad members.

Viewing a three-person group as comprised of three distinct two-person groups, we may consider the equilibrium of the triad as dependent upon the correspondence of the dyads together. As Kelley and Thibaut (1959, p. 211) pointed out:

> If triads are created by random assignment, the outcomes of one of the three possible pairs within a triad will often, by chance, correspond much better than those of the other two possible pairs. This initial tendency toward coalition formation is likely to be reinforced and stabilized as the two members of the highly correspondent pair implicitly convert their fate control over each other, the result being a dependent pattern of mutual support.

The triad relationships involving student teacher, cooperating teacher, and college supervisor provide each group member limited and differential control over the other members. Attitude imbalance within such triads should be expected after initial contacts. Also, it should be expected that triad members will strive to achieve some form of consonant resolution when imbalance occurs. As dyadic relationships change, they will effect changes in triadic balance.

It should be pointed out that our analyses of triad relationships are weakened for substantive purposes, as all 12 college supervisors enter into the several triads involving each of their student teachers. In other words, the 124 triads are not independent from each other. However, this analysis can be useful for tentative inferences and of interest from a methodological point of view, possibly providing guidelines for future studies.

To test H_1, a triad was considered balanced (i.e., in a state of equilibrium) if it was made up of all positive dyads or any combination of two negative dyads and one positive dyad. A triad was considered imbalanced (i.e., in a state of disequilibrium) if it resulted with all negative dyads, or any combination of two positive dyads and one negative dyad. As a result, there were four possible ways for a triad to be balanced and four ways for it to be imbalanced.

Table 11 presents the total sample's frequencies for each type of triad which occurred at pre- and posttest occasions. The results show that 75 triads were balanced at pretest and 62 triads balanced at posttest. Imbalanced triads numbered 49 at pretest and 62 at posttest. Close examination of specific types of pre- and posttest shifts in triad relationships will be made before we discuss more fully the overall pattern of change.

We begin with the first row on Table 11. At the pretest occasion, a total of 42 triads were balanced with all-positive dyads (+ + +). At posttest, only 18 of these 42 (+ + +) triads remained balanced and only 4 were still in the form of (+ + +). Among these 18 triads which were balanced at posttest, the majority (14) shifted to (- - +).

Twenty-four (+ + +) triads found at pretest shifted to the following types of imbalance at posttest: 4 (- - -), 8 (+ - +), one (+ + -), and 11 (- + +). Almost half (11) of these shifts had developed a negative dyad

Table 11

Triad Relationships at Pre- and Posttest

(N = 124 triads)

	Dyad Relationships:			Posttest								
	(C-S)	(T-S)	(C-T)*	+++	+-+	+--	++-	---	--+	-++	-+-	Totals
Pretest	+	+	+	4	8	0	1	4	14	11	0	42
	+	-	+	1	7	2	2	1	7	7	1	28
	+	-	-	0	0	0	0	0	0	0	0	0
	+	+	-	0	0	0	0	0	0	0	0	0
	-	-	-	0	0	0	0	0	0	0	0	0
	-	-	+	2	1	4	0	8	14	4	0	33
	-	+	+	1	1	1	1	3	9	3	2	21
	-	+	-	0	0	0	0	0	0	0	0	0
	Totals			8	17	7	4	16	44	25	3	124

* (C-S) denotes the college supervisor-student teacher dyad; (T-S) denotes the cooperating teacher-student teacher dyad; and (C-T) denotes the college supervisor-cooperating teacher dyad. A + sign indicates positive attitudes between members of dyads; a - sign indicates negative attitudes in dyads.

between the college supervisor and student teacher, while T-S and C-T dyads remained positive, (- + +). Eight triads became imbalanced when the dyad between cooperating teacher and student teacher became negative, (+ - +).

The 19 cases of (- + +) and (+ - +) indicate some tendency for coalitions to form between the student teacher and supervisor or cooperating teacher. Because supervisor and cooperating teacher interact infrequently with each other and may maintain a positive dyadic relationship from a distance, it is conceivable that these imbalanced cases of (- + +) and (+ - +) would be balanced as (- + -) and (+ - -), respectively, if interaction between C-T was greater. Perhaps a future study along similar lines may develop methods of sharpening distinctions in cooperating teachers' and supervisors' interaction and estimate with greater validity their positive and negative dyad relationships. However, with only four posttest cases out of 42 at pretest actually remaining in the all-positive state of (+ + +), we begin to see signs that the student-teaching triad shifts away from all-around triad unity toward triadic arrangements of positive and negative dyad relationships.

In the second row of Table 11, 28 (+ - +) triads were imbalanced at pretest. At the posttest occasion, 17 remained imbalanced with only 17 remaining in the same state of imbalance (+ - +); one became (- - -), 7 (- + +), and 2 shifted to (+ + -). Eleven of the 28 (+ - +) were found to be balanced at posttest in the following forms: only one shifted to (+ + +), 2 to (+ - -), 7 to (- - +), and one became (- + -). Instead of shifting toward positive triadic unity (+ + +), this initial group arrangement shows considerable instability in the two dyads involving the student teacher. The persistence of the C-T dyad to remain stable can be seen again in noting that only 6 of these 28 dyads changed to negative compared to 14 of the C-S dyad which changed to (-) and 17 of the T-S dyad which shifted to (+).

In the sixth row of Table 11, 33 triads were balanced as (- - +) at pretest. At posttest, 20 were found to be balanced in the form of 14 still (- - +), 2 (+ + +), and 4 (+ - -). The remaining 13 triads were imbalanced at posttest; 8 became (- - -), one (+ - +), and 4 (- + +). Since these triads began the semester with negative cohesiveness as a group, it is not surprising that only 2 became (+ + +) and that this unstable arrangement continues and moves toward greater breakdown of the group.

In the seventh row of Table 11, we find 21 (- + +) triads imbalanced at pretest. At posttest, only one of these triads had shifted to (+ + +). One had become (+ - -), 9 (- - +), and 2 (- + -), resulting in 13 out of 21 (- + +) triads achieving balance between pre- and posttests. Among the 8 triads which were still imbalanced at posttest, 3 remained (- + +), one became (+ - +), one (+ + -), and 3 (- - -). Here again, we see the tendency for stability in C-T coalitions. Unlike the pre- to posttest shifts from (+ - +) discussed above, there is strong stability in how the C-S dyad remains negative; only 4 out of 21 changed and became (+). However, 14 out of the T-S dyads changed to (-) in keeping with the instability between student teacher and cooperating teacher noted above.

Among the 62 triads which were balanced at the posttest occasion, 44 were formed as (- - +), 8 (+ + +), 7 (+ - -), and 3 (- + -). The question arises as to why more triads (44) found balance in the form of (- - +) than any other triadic relationship. Triadic balance achieved with a (- - +) relationship may be the result of coalition formation between college supervisor and cooperating teacher in order to exercise mutual control and influence over the student teacher. In their discussion of coalition formation, Kelley and Thibaut (1959, p. 205) wrote:

> This joint action is presumably based upon common interest, or, in our technical terms, correspondence of outcomes. Insofar as the outcomes of all the individuals in a given subset are affected in the same way by another individual, the basis exists for their forming a coalition against him.

A cooperating teacher and a college supervisor share common interests in the performance of a student teacher, since the quality of work done by a student teacher reflects, in part, the quality of leadership given by the cooperating teacher and the college supervisor. Common personal characteristics, such as age and background, may also help the two leaders coalesce.

In the 10 other triads where balance was achieved as a result of one dyad coalition, there were 7 coalition formations between college supervisor and student teacher (+ - -). Thus, for the total sample, the predominant pattern for triadic balance is in the condition of (- - +) where a coalition exists between the leaders and there are negative dyadic relations between leaders and student teachers.

Although there was no statistically significant difference between the number of triads balanced at pretest and at posttest, the shift from 75 to 62 balanced triads indicate a trend toward greater triadic imbalance and movement away from the triad cohesiveness. The difference between balanced and unbalanced triads at pretest (75 to 49) is statistically significant at well above the .05 level ($\underline{x}^2 = 5.04$, 2 x 1 contingency table, two-tailed with 1 df). However, posttest frequencies are exactly equal to chance expectations of $\frac{N}{2}$.

Therefore, Hypothesis One is supported by these findings; patterns of shift are evident from pre- to posttest occasion. A simple method of viewing such shift is to note the few cases in the diagonal from the northwest corner to the southeast corner of Table 11. This diagonal passes through the cells that are identical from pre- to posttest. In Table 11, those cells contain a total of only 28 triads out of 124 possible. These results indicate that the student-teaching triad becomes much less cohesive as a positive-attractive group to members. What apparently happens over time as the triad members work longer and become more familiar with each other is that coalitions are formed, especially between the leaders' and the C-S and T-S dyads exhibit strong tendencies toward negative outcomes. Thus, triadic balance of the form (- - +) is most outstanding among outcomes. The (- - +) outcome seems to represent the student-teaching triad's overall movement toward equilibrium.

Differences between Elementary and Secondary Subjects

Table 12 presents the means and standard deviations of student teachers' and cooperating teachers' measures in elementary and secondary schools. The low Ns for supervisors do not allow serious consideration of their measures' means and standard deviation in these comparisons, but are given below Table 12 for information.

Cooperating Teachers. The means for elementary cooperating teacher variables were higher than were the means for secondary cooperating teachers. This is in keeping with the differences between standardized MTAI means for elementary and secondary teachers as reported by Cook, Leeds, and Callis (1950). They reported that elementary teachers, with four years of experience and teaching in schools of 21 or more teachers, had an MTAI mean score

Table 12

Means and Standard Deviations of Student Teachers' and Cooperating Teachers' Attitude Measures in Elementary and Secondary Schools

Variables	Elementary Means	(N = 44) S.D.	Secondary Means	(N = 80) S.D.	Sig. of Differences Between Means
T_0	38.39	30.35	28.49	31.13	NS
S_0	33.77	28.58	31.91	26.55	NS
F	33.07	10.48	35.35	9.14	NS
U_1	19.61	2.83	19.55	3.33	NS
U_2	17.68	3.24	17.08	4.27	NS
U_3	18.52	3.96	17.44	5.18	NS
U_0	55.82	7.62	54.06	11.02	NS
V_1	20.00	3.07	19.53	3.48	NS
V_2	17.89	4.82	17.66	4.58	NS
V_3	18.64	4.29	18.33	4.34	NS
V_0	56.52	11.22	55.51	11.12	NS
T_1	6.27	7.04	3.68	8.36	***
T_2	9.70	5.51	8.86	5.06	*
T_3	10.45	6.51	7.51	6.82	**
S_1	7.36	5.69	6.14	6.16	NS
S_2	9.18	6.07	7.79	5.20	NS
S_3	6.52	7.25	6.91	5.37	NS
T_0'	39.23	34.76	29.50	31.93	NS
S_0'	32.52	32.15	31.33	36.05	NS
F'	33.75	10.84	35.13	12.17	NS

Table 12 (continued)

Variables	Elementary Means	(N = 44) S.D.	Secondary Means	(N = 80) S.D.	Sig. of Differences Between Means
U_1'	19.00	4.23	20.51	3.02	*
U_2'	20.20	3.20	18.75	4.74	*
U_3'	17.25	6.10	17.71	5.80	NS
U_0'	56.45	12.38	56.98	12.20	NS
V_1'	20.00	3.88	19.68	3.51	NS
V_2'	19.23	4.31	18.30	4.96	NS
V_3'	19.30	4.93	18.10	5.52	NS
V_0'	58.52	11.96	56.08	12.47	NS
T_1'	6.80	7.74	4.00	9.08	NS
T_2'	9.73	5.75	9.03	5.41	NS
T_3'	9.75	6.29	7.78	6.25	NS
S_1'	6.27	8.57	5.45	8.08	NS
S_2'	9.45	5.86	8.91	6.97	NS
S_3'	5.39	6.98	5.81	6.12	NS

* $p < .05$, ** $p < .01$, *** $p < .001$

Variables	Elementary Means	(N = 4) S.D.	Secondary Means	(N = 8) S.D.
C_0	90.84	23.88	52.03	12.58
C_0'	76.95	34.53	43.49	11.08
C_1	10.39	2.27	9.85	5.17
C_1'	8.02	2.05	5.96	5.73

Table 12 (continued)

Variables	Elementary Means	(N = 4) S.D.	Secondary Means	(N = 8) S.D.
$\underline{C}_2$	18.27	3.45	11.73	3.90
$\underline{C}_2'$	12.09	8.87	10.06	2.74
$\underline{C}_3$	15.52	1.32	13.60	3.91
$\underline{C}_3'$	12.16	4.07	14.06	3.77

of 55.1. The mean for secondary teachers in academic areas was 40.8. Beamer and Ledbetter (1957) and Getzels and Jackson (1963) also reported that elementary teachers scored higher on the MTAI than do secondary teachers.

Elementary cooperating teachers' means for the three Mod MTAI factors were significantly higher at the pretest occasion than were secondary cooperating teachers' means for those factors (t test for differences between means of independent samples). For Factor I: "Traditionalistic versus Modern Beliefs about Child Control," elementary cooperating teachers' mean of 6.27 was significantly higher ($p < .001$) than secondary cooperating teachers' mean of 3.68. With Factor II: "Unfavorable versus Favorable Opinions about Children," elementary cooperating teachers' mean of 9.70 was significantly higher ($p < .05$) than secondary cooperating teachers' mean of 8.86. For Factor III: "Punitive Intolerance versus Permissive Tolerance for Child Misbehavior," elementary cooperating teachers' mean of 10.45 was significantly higher ($p < .05$) than secondary cooperating teachers' mean of 7.51.

With such results using Mod MTAI factor variables, elementary cooperating teachers in this study held more "modern," "permissive" beliefs about child control and more favorable opinions toward young people than did secondary cooperating teachers.

Since the Mod MTAI refers to young people and not just children, the more lenient and permissive attitudes expressed by elementary cooperating teachers may well reflect their attitudes toward student teachers also. The warm and comforting effect of such attitudes might account, in part, for elementary student teachers' higher merit ratings of their cooperating teachers. The same trend, though $\underline{C}_n$ means are higher, can be seen in differences between elementary and secondary college supervisors' results.

Student Teachers. Elementary student teachers' means for Mod MTAI scores were higher than secondary student teachers' means, except for Factor III. The differences, however, are not statistically significant. Secondary student teachers had a slightly higher mean for this factor at both pre- and posttest occasions. These results tend to agree with Veldman (1959, 1961, 1964) who has written that elementary education majors at The University of Texas typically have more positive attitudes toward children than do students majoring in secondary education.

Higher $\underline{U}_n$ means at pretest for elementary student teachers than for secondary student teachers indicate that elementary student teachers rated their college supervisors higher on all merit dimensions, but differences between means are not statistically significant. Significant differences between posttest means for $\underline{U}_1'$, however, indicate that secondary student teachers, near the end of the student-teaching period, were rating their college supervisors significantly higher ($p < .05$) on general merit than were elementary student teachers. At the same time, elementary student teachers were rating their college supervisors significantly higher ($p < .05$) on affective merit than were secondary student teachers. There was little difference between elementary and secondary students' $\underline{U}_3'$ means, i.e., posttest attitudes toward supervisors' cognitive merit.

There were no significant differences between elementary and secondary student teachers' means for $\underline{V}_n$ merit dimensions, at both pre- and posttest. However, means of elementary students' attitudes toward the cooperating teachers were consistently higher than secondary student teachers' means. Apparently, elementary student teachers rated their cooperating teachers slightly higher on all counts than did secondary student teachers.

As expected, elementary cooperating teachers and elementary student teachers involved in this study had more positive attitudes toward school and young people than did their secondary counterparts. Their attitudes would then tend to relate more positively. Thus, judging from the higher merit ratings given by them, elementary student teachers seemed to have more positive relationships with their cooperating teachers. Also, elementary student teachers also had more positive affective attitudes for their college supervisors than did secondary student teachers. However, secondary student teachers appear to have higher general merit ratings for their supervisors at posttest. These differences, therefore, indicate characteristic differences between elementary and secondary school triads. We proceed now to discuss separate results of triad shifts for the sub-samples.

$\underline{H}_1$ Tested Separately for Elementary and Secondary Sub-Samples. Tables 13 and 14 show frequencies of triadic shifts from pre- to posttest among elementary and secondary triads separately. As in Table 11, few cases are found in the "stable" cells by diagonals running from the northwest corner to the sourtheast corner in both tables. For the total sample of 124 triads, we had

Table 13

Elementary Triad Relationships at Pre- and Posttest

(N = 44)

	Dyad Relationships:			Posttest								
	(C-S)	(T-S)	(C-T)*	+++	+-+	+--	++-	---	--+	-++	-+-	Totals
Pretest	+	+	+	5	0	1	0	1	5	2	0	14
	+	-	+	0	1	1	0	2	3	3	0	10
	+	-	-	0	0	0	0	0	0	0	0	0
	+	+	-	0	0	0	0	0	0	0	0	0
	-	-	-	0	0	0	0	0	0	0	0	0
	-	-	+	1	0	1	0	5	4	1	0	12
	-	+	+	1	1	0	1	3	1	1	0	8
	-	+	-	0	0	0	0	0	0	0	0	0
	Totals			7	2	3	1	11	13	7	0	44

* (C-S) denotes the college supervisor-student teacher dyad; (T-S) denotes the cooperating teacher-student teacher dyad; and (C-T) denotes the college supervisor-cooperating teacher dyad. A + sign indicates positive attitudes between members of dyads; a - sign indicates negative attitudes in dyads.

Table 14

Secondary Triad Relationships at Pre- and Posttest

(N = 80)

	Dyad Relationships: (C-S)	(T-S)	(C-T)*	Posttest +++	+-+	+--	++-	---	--+	-++	-+-	Totals
	+	+	+	2	4	1	1	2	13	3	0	26
	+	-	+	1	9	0	2	0	2	3	0	17
	+	-	-	0	0	0	0	0	0	0	0	0
	+	+	-	0	0	0	0	0	0	0	0	0
Pretest	-	-	-	0	0	0	0	0	0	0	0	0
	-	-	+	1	2	2	0	6	8	3	1	23
	-	+	+	0	0	1	0	2	7	1	3	14
	-	+	-	0	0	0	0	0	0	0	0	0
	Totals			4	15	4	3	10	30	10	4	80

* (C-S) denotes the college supervisor-student teacher dyad; (T-S) denotes the cooperating teacher-student teacher dyad; and (C-T) denotes the college supervisor-cooperating teacher dyad. A + sign indicates positive attitudes between members of dyads; a - sign indicates negative attitudes in dyads.

found 28 cases (23%) in such cells; for the elementary sub-sample, 11 out of 44 (25%); and for the secondary sub-sample, 20 out of 80 (25%).

Hypothesis One is further supported by results found in data analyzed separately by school level. Both sub-samples are similar in many ways. With an N of 44, there were 26 elementary triads, 49 were balanced at pretest; 42 were balanced at posttest. Neither set of pre- to posttest differences are statistically significant. Both have about the same per cent cases balanced at posttest. At pretest, the difference between frequencies of elementary balanced and imbalanced triads (26 - 18) is statistically insignificant, and the posttest frequencies (23 - 21) show even less difference. Similarly, for secondary triads, pretest frequencies of 49 balanced and 31 imbalanced triads do not differ at significance levels, and posttest frequencies (42 - 38) differ closer to chance expectations. In both sub-samples, therefore, shift from pre- to posttest was found and movement is not toward greater triadic balance, but in the direction of triadic imbalance.

Examining sub-sample resolutions more closely, we find that triadic balance is achieved more through arrangements with negative dyads and coalitions than through positive triadic balance, i.e., (+ + +). The results for the total sample discussed above led to the same conclusions. Of the 44 elementary triads which were balanced at pretest, 23 were balanced at posttest with 13 (- - +), 3 (+ - -), and only 7 (+ + +). Among the 80 secondary triads, 42 were balanced at posttest with 30 cases (- - +), 4 (+ - -), 4 (- + -), and only 4 (+ + +). The majority of triad relationships, therefore, show negative dyads operating between student teacher and both leaders, i.e., (- - -) and (- - +). Of this majority, the latter situation where the leaders form a positive coalition and have negative dyadic relationships with student teacher is most predominant, especially in the secondary sub-sample.

In the elementary sub-sample, 13 triads in the form of (- - +) materialize at posttest when there were 12 at pretest. In the secondary sub-sample, there were 30 (- - +) triads against 23 at pretest, approximately 10 per cent more cases than elementary triads so balanced. No (- - -) outcomes were found for either sub-sample at pretest. At posttest, striking increases from zero to 13 for elementary triads and 10 for secondary triads do provide statistically significant differences.

The student-teaching triad, therefore, does not shift toward increased positive interpersonal balance. Rather, the triad appears to seek greater dyadic balance at the cost of decreased triad cohesiveness. Therefore, balance is found in dyadic coalitions, especially between the leaders, and negative dyads between leaders and the student teacher. The student-teaching triad seems to degenerate and become less of a viable group as time passes; the greatly increased numbers of triads with only negative dyads (- - -) help to emphasize this conclusion.

Correlational Analyses for H_1. Keeping in mind the problem of supervisor's N, we examined correlations between total samples' posttest attitudes of students toward their leaders and leaders' ratings of student teachers. The *rs* complement the favorable results obtained with the preceding analyses for H_1.

$$r_{U_1'Q_C'} = .42,\quad r_{U_3'Q_C'} = .24,\quad r_{U_0'Q_C'} = .26, \text{ and}$$

$$r_{V_1'Q_T'} = .21,\quad r_{V_3'Q_T'} = .23,\quad r_{V_0'Q_T'} = .23$$

Correlations with students' affective attitudes ($U_2' + V_2'$) were not at significance levels. The most positive relationship (.42) can be seen in the *r* of students' general merit ratings toward their supervisors (U_1') and supervisors' questionnaire ratings of students (Q_C'). On the other hand, $r_{V_1'Q_T'} = .21$ (students' general merit ratings of cooperating teacher and coöperating teachers' ratings of students). Thus, supervisors and their student teachers may perceive each others general merit at a higher degree of similarity than do cooperating teachers and students. While all U_n' and V_n' attitude means and standard deviations are equivalent, the correlations (see Table 15) between these posttest variables are almost zero (e.g., $r_{U_0'V_0'} = -.04$), indicating that students' perceptions of their leaders are without relationship. Since $r_{U_0V_0} = .11$, the result shows such differences in student perceptions increasing over time. Thus, we find in these attitude relationships definite signs that students perceive the two leaders not as related entities but as members of two different dyad relationships.

On the other hand, however, the correlation of leaders' post-questionnaire ratings ($\underline{r}_{Q_C{}'Q_T{}'}$) was .56 ($p < .001$), suggesting stronger similarity in leaders' final ratings of student teachers than in ratings between student teacher and leaders. As seen in the predominance of (- - +) triadic outcomes for H_1 (where the triad may be holding together mostly because of leaders' positive dyad), this correlation is another demonstration of leaders' positive coalition with each other in respect to the student.

The total sample's frequencies of positive and negative dyadic relationships at posttest also demonstrate the predominance of the (- - +) outcome. In the posttest dyads between college supervisor and student (C-S), there are 36 (+) and 88 (-) dyadic relationships; between cooperating teacher and student (T-S), 40 (+) and 84 (-); and between the two leaders (C-T), 94 (+) and 30 (-). At pretest, the dyads were arranged as follows: (C-S), 70 (+) and 54 (-); (T-S), 63 (+) and 61 (-); and (C-T), 124 (+) and none (-). Thus, we see that all frequencies of positive dyadic relationships decrease from pre- to posttest, but positive frequencies are only significantly greater than negative frequencies in the dyad relationship of (C-T). The observed frequencies for the other dyad relationships are significantly beyond chance expectations of $\frac{N}{2}$ in the negative direction.

Hypothesis Two

Correlational Analyses for Total Sample. Because of the inadequate N of 12 for supervisors, we limit these analyses mainly to students' and cooperating teachers' variables.

Correlations between leaders' and student teachers' attitude measures are presented in Table 15. The results give only slight support to H_2, i.e., that student teachers' attitudes agree more closely with cooperating teachers' attitudes at posttest than at pretest. Although few of these correlations were at significance levels, the majority of the correlations were greater at posttest than at pretest. We do know that student teachers' attitudes changed much more than their leaders'. Test-retest correlations for $\underline{T}_0$, $\underline{S}_0$, and $\underline{V}_0$ (see Table 10) show greater stability for $\underline{T}_0$ than for $\underline{S}_0$ (.58) or $\underline{V}_0$ (.57) ($\underline{r}_{C_0C_0{}'} = .90$). With the exception of $\underline{r}_{T_3{}'S_2{}'}$, correlations between cooperating teachers' and student teachers' Mod MTAI measures were more positive at posttest than at pretest. With the greater stability

Table 15

Correlations of Student Teachers' and Leaders' Attitudes

(N = 124)

$\underline{r}$s at	Pretest	$\underline{r}$s at	Posttest
$\underline{r}_{T_0S_0}$	.09	$\underline{r}_{T_0'S_0'}$	.14
$\underline{r}_{T_0V_1}$	.16	$\underline{r}_{T_0'V_1'}$	.06
$\underline{r}_{T_0V_2}$	.06	$\underline{r}_{T_0'V_2'}$	.05
$\underline{r}_{T_0V_3}$	.13	$\underline{r}_{T_0'V_3'}$	.13
$\underline{r}_{T_0V_0}$	.12	$\underline{r}_{T_0'V_0'}$	.09
$\underline{r}_{T_1V_1}$	.18*	$\underline{r}_{T_1'V_1'}$	.11
$\underline{r}_{T_1V_2}$	.10	$\underline{r}_{T_1'V_2'}$	.13
$\underline{r}_{T_1V_3}$	.11	$\underline{r}_{T_1'V_3'}$	.17
$\underline{r}_{T_1V_0}$	.14	$\underline{r}_{T_1'V_0'}$	.16
$\underline{r}_{T_2V_1}$	.16	$\underline{r}_{T_2'V_1'}$	.00
$\underline{r}_{T_2V_2}$	.04	$\underline{r}_{T_2'V_2'}$	.01
$\underline{r}_{T_2V_3}$	.13	$\underline{r}_{T_2'V_3'}$	.09
$\underline{r}_{T_2V_0}$	.11	$\underline{r}_{T_2'V_0'}$	.04
$\underline{r}_{T_3V_1}$	.05	$\underline{r}_{T_3'V_1'}$	.04

Table 15 (continued)

$\underline{r}$s	at Pretest	$\underline{r}$s	at Posttest
$\underline{r}_{T_3V_2}$	.00	$\underline{r}_{T_3'V_2'}$	.02
$\underline{r}_{T_3V_3}$	.04	$\underline{r}_{T_3'V_3'}$	.11
$\underline{r}_{T_3V_0}$	.04	$\underline{r}_{T_3'V_0'}$	.07
$\underline{r}_{T_1S_1}$	.04	$\underline{r}_{T_1'S_1'}$	.12
$\underline{r}_{T_1S_2}$	.06	$\underline{r}_{T_1'S_2'}$	.14
$\underline{r}_{T_1S_3}$	-.03	$\underline{r}_{T_1'S_3'}$	.10
$\underline{r}_{T_2S_1}$	-.01	$\underline{r}_{T_2'S_1'}$	.07
$\underline{r}_{T_2S_2}$	.00	$\underline{r}_{T_2'S_2'}$	.14
$\underline{r}_{T_2S_3}$	.04	$\underline{r}_{T_2'S_3'}$	.12
$\underline{r}_{T_3S_1}$	.05	$\underline{r}_{T_3'S_1'}$	.16
$\underline{r}_{T_3S_2}$	.05	$\underline{r}_{T_3'S_2'}$	-.02
$\underline{r}_{T_3S_3}$	-.06	$\underline{r}_{T_3'S_3'}$	.10
$\underline{r}_{U_1V_1}$	.16	$\underline{r}_{U_1'V_1'}$	-.004
$\underline{r}_{U_2V_2}$	.08	$\underline{r}_{U_2'V_2'}$	-.04
$\underline{r}_{U_3V_3}$	.08	$\underline{r}_{U_3'V_3'}$	-.05

Table 15 (continued)

rs	at Pretest	rs	at Posttest
$r_{U_0V_0}$	.11	$r_{U_0'V_0'}$	-.04
		$r_{Q_C'U_1'}$	.42**
		$r_{Q_C'U_2'}$	.05
		$r_{Q_C'U_3'}$	.24**
		$r_{Q_C'U_0'}$	.26**
		$r_{Q_T'V_1'}$	.21*
		$r_{Q_T'V_2'}$	.17
		$r_{Q_T'V_3'}$	.23**
		$r_{Q_T'V_0'}$	.23**
		$r_{Q_C'Q_T'}$	.56**

* $p < .05$ ** $p < .01$

of cooperating teachers' Mod MTAI scores, such changes from $\underline{r}_{T_n S_n}$ to $\underline{r}_{T_n 'S_n '}$ provide some indication that student teachers' posttest attitudes toward young people and school in general more nearly approximated cooperating teachers' attitudes than their pretest attitude scores (see results of Frequency-of-Change-in-Product-Moment-Technique, p.105). Also, three correlations involving students' posttest attitudes toward cooperating teacher, $\underline{V}_n'$, were higher than correlations with pretest measures of $\underline{V}_n$: $\underline{r}_{T_1 'V_2 '}$, $\underline{r}_{T_1 'V_3 '}$, and $\underline{r}_{T_1 'V_0 '}$. Each of these variables correlated greater at posttest than at pretest, with $\underline{r}_{T_1 'V_3 '}$ and $\underline{r}_{T_1 'V_0 '}$ approaching significance at the .05 level.

Some of the correlations between cooperating teachers' and students' variables did not increase from pre- to posttest, but decreased. Correlations of these posttest measures were so low as to suggest no relationship between student teachers' evaluations of cooperating teachers' merit and cooperating teachers' attitudes toward school and young people. The overall appraisal of these correlational results is that there appears to be at best only weak positive relationships between cooperating teachers' and candidates' attitudes. This relationship increases slightly from pre- to posttest.

It should be pointed out again that the correlation of students' attitudes toward leaders decrease from pre- to posttest, e.g., $\underline{r}_{U_1 V_1} = .16$ to $\underline{r}_{U_1 'V_1 '} = -.004$, indicating student's perceptions of his two leaders are only slightly related at pretest and become less positively related over time. The leaders' posttest ratings of student teachers, however, correlate significantly, i.e., $\underline{r}_{Q_C '} = .56$, $p < .001$. Such results agree with H_1 findings that the student-teaching triad tends to shift away from all positive unity to negative and positive dyadic relationships.

Correlational Analyses by School Level. Correlational results for elementary and secondary sub-samples are presented in Table 16. As discussed in H_1 analyses, differences found between the sub-samples suggested that the relationships between student teachers and cooperating teachers might be determined by factors associated with the school level taught. However, only three rs were at significance levels. Both elementary and secondary student teachers appear to rate their cooperating teachers' merit ($\underline{V}_2$) with little relationship to cooperating teachers' posttest attitudes

Table 16

Correlations of Elementary and Secondary Student Teachers' and Cooperating Teachers' Attitudes Measures by Mod MTAI and "My Cooperating Teacher" Inventory

(Elementary N = 44, Secondary N = 80)

Pretest rs	Elem.	Sec.	Posttest rs	Elem.	Sec.
$r_{T_0S_0}$	-.01	.14	$r_{T_0'S_0'}$	.19	.11
$r_{T_0V_1}$	.18	.14	$r_{T_0'V_1'}$	.02	.08
$r_{T_0V_2}$	.05	.06	$r_{T_0'V_2'}$	.10	.01
$r_{T_0V_3}$	.07	.15	$r_{T_0'V_3'}$	.10	.12
$r_{T_0V_0}$	.10	.12	$r_{T_0'V_0'}$	.08	.08
$r_{T_1V_1}$	.26	.14	$r_{T_1'V_1'}$	.16	.08
$r_{T_1V_2}$	.15	.08	$r_{T_1'V_2'}$	.19	.09
$r_{T_1V_3}$	.11	.10	$r_{T_1'V_3'}$	.16	.16
$r_{T_1V_0}$	.18	.12	$r_{T_1'V_0'}$	.19	.13
$r_{T_2V_1}$	.15	.16	$r_{T_2'V_1'}$	.08	-.06
$r_{T_2V_2}$	.06	.02	$r_{T_2'V_2'}$	.09	-.04
$r_{T_2V_3}$	-.15	.12	$r_{T_2'V_3'}$	.19	.02
$r_{T_2V_0}$	.15	.10	$r_{T_2'V_0'}$	.14	-.02

Table 16 (continued)

Pretest *r*s	Elem.	Sec.	Posttest *r*s	Elem.	Sec.
$r_{T_3V_1}$	-.04	.07	$r_{T_3'V_1'}$	-.12	.12
$r_{T_3V_2}$	-.15	.08	$r_{T_3'V_2'}$	-.10	.06
$r_{T_3V_3}$	-.09	.10	$r_{T_3'V_3'}$	-.02	.15
$r_{T_3V_0}$	-.11	.09	$r_{T_3'V_0'}$	-.08	.13
$r_{T_1S_1}$	.18	-.04	$r_{T_1'S_1'}$	.00	.18
$r_{T_1S_2}$	.04	.05	$r_{T_1'S_2'}$	-.08	.22
$r_{T_1S_3}$	.11	-.11	$r_{T_1'S_3'}$	.02	.15
$r_{T_2S_1}$	.04	-.04	$r_{T_2'S_1'}$	-.09	.16
$r_{T_2S_2}$	-.10	.05	$r_{T_2'S_2'}$	-.03	.20
$r_{T_2S_3}$	.00	-.06	$r_{T_2'S_3'}$	.12	.13
$r_{T_3S_1}$	.07	.00	$r_{T_3'S_1'}$	.28*	.08
$r_{T_3S_2}$	.00	.04	$r_{T_3'S_2'}$	.13	-.10
$r_{T_3S_3}$	.32*	-.33*	$r_{T_3'S_3'}$	.18	.01

* $p < .05$

toward young people (T_n). The statistically significant *r*s are too few to suggest a behavioral pattern. For elementary students and their teachers, $r_{T_3S_3} = .32$ and $r_{T_3'S_3'} = .18$, but $r_{T_3S_1} = .07$ and $r_{T_3'S_1'} = .28$. For secondary students and their teachers, $r_{T_3S_3} = -.33$ and $r_{T_3'S_1'} = .01$, showing shift from a significant negative r at pretest to less significant covariation of attitudes toward the punitive versus permissive control of young people at posttest.

As far as Hypothesis Two is tested by these correlational analyses for the total sample or for the differing school level sub-samples, H_2 is not supported. However, we do not assume lack of influence operating between student teacher and his leaders, because influence may be working to lower the correlation of attitude measures as well as raising the correlation. In discussion of Hypothesis Four, we will show how incongruent leader influence can be a significant aspect of student-teaching interaction.

At this point, the above correlational results agree with the school level differences in means of elementary and secondary subjects. As expected from those results, elementary and secondary dyadic relationships as illustrated by correlational differences in Table 16 differ in attitude compatibility between cooperating teacher and student teacher.

Hypothesis Three

Analyses of Intercorrelations for Most Affectively-Oriented and Most Cognitively-Oriented Student Teachers. It was hypothesized that correlations between cooperating teachers' Mod MTAI scores and students' affective merit measures would be higher for the most affectively-oriented student teachers than correlations with similar variables would be for the most cognitively-oriented student teachers. Scores derived from the inventory, *F* and *F'*, were used to select the most cognitively-oriented and the most affectively-oriented student teachers at the pre- and posttest occasions.

Pretest Affective and Cognitive Groups. Table 17 presents correlations of cooperating-teachers' and student-teachers' attitude measures for student teachers with *pretest* *F*-scores ranking in the upper 27% (most cognitively-oriented) and also for student teachers in the lower 27% (most affectively-oriented) of total group scores on *F*.

In results for the lower 27% group, four significant correlations were found to support Hypothesis Three. Three of these significant correla-

Table 17

Correlations, Means, Standard Deviations for Pre- and Posttest Attitude Measures of Student Teachers Most Cognitively-Oriented or Affectively-Oriented at Pretest and Their Cooperating Teachers

(N = 35 for each group)

Pretest			Posttest			Differences Between rs	
rs	Cognitive	Affective	rs	Cognitive	Affective	Pretest	Posttest
$\underline{r}_{T_0V_1}$	.42	.24	$\underline{r}_{T_0'V_1'}$	.20	-.01	.18	.21
$\underline{r}_{T_0V_2}$	.04	.36*	$\underline{r}_{T_0'V_2'}$	-.02	.29	.32	.31
$\underline{r}_{T_0V_3}$	.15	.27	$\underline{r}_{T_0'V_3'}$	.20	.14	.12	.06
$\underline{r}_{T_0V_0}$	.18	.31	$\underline{r}_{T_0'V_0'}$	.13	.15	.13	.02
$\underline{r}_{T_1V_1}$	.41*	.30	$\underline{r}_{T_1'V_1'}$	.14	.00	.11	.14
$\underline{r}_{T_1V_2}$	.03	.36*	$\underline{r}_{T_1'V_2'}$	-.08	.41*	.33	.49*
$\underline{r}_{T_1V_3}$	.09	.26	$\underline{r}_{T_1'V_3'}$	.11	.25	.17	.14
$\underline{r}_{T_1V_0}$	.15	.32	$\underline{r}_{T_1'V_0'}$	.05	.25	.17	.20

Table 17 (continued)

Pretest			Posttest			Differences Between $\underline{r}$s	
$\underline{r}$s	Cognitive	Affective	$\underline{r}$s	Cognitive	Affective	Pretest	Posttest
$\underline{r}_{T_2V_1}$	.36*	.30	$\underline{r}_{T_2'V_1'}$	.18	.03	.06	.15
$\underline{r}_{T_2V_2}$	.01	.37*	$\underline{r}_{T_2'V_2'}$	.13	.20	.36	.07
$\underline{r}_{T_2V_3}$	.14	.30	$\underline{r}_{T_2'V_3'}$	.22	.21	.16	.01
$\underline{r}_{T_2V_0}$	.15	.35*	$\underline{r}_{T_2'V_0'}$	.19	.17	.20	.02
$\underline{r}_{T_3V_1}$	.19	.05	$\underline{r}_{T_3'V_1'}$	.20	-.17	.14	.37
$\underline{r}_{T_3V_2}$	-.02	.16	$\underline{r}_{T_3'V_2'}$	.02	-.02	.18	.04
$\underline{r}_{T_3V_3}$	.15	.13	$\underline{r}_{T_3'V_3'}$	.26	-.03	.02	.29
$\underline{r}_{T_3V_0}$	.10	.12	$\underline{r}_{T_3'V_0'}$	.17	-.07	.02	.24
$\underline{r}_{T_1S_1}$	-.05	.16	$\underline{r}_{T_1'S_1'}$	-.01	.17	.21	.18
$\underline{r}_{T_2S_2}$	.09	.26	$\underline{r}_{T_2'S_2'}$	.17	.42**	.17	.25
$\underline{r}_{T_3S_3}$	-.04	-.09	$\underline{r}_{T_3'S_3'}$	.06	.19	.05	.13

Table 17 (continued)

Most cognitive: $\underline{S}_0$ = 34.79, S. D. = 27.05 ; $\underline{S}_0'$ = 35.31, S. D. = 29.74 ;
$\underline{T}_0$ = 34.26, S. D. = 33.01 ; $\underline{T}_0'$ = 36.43, S. D. = 34.29 .

Most affective: $\underline{S}_0$ = 32.09, S. D. = 26.95 ; $\underline{S}_0'$ = 29.69, S. D. = 36.83 ;
$\underline{T}_0$ = 31.63, S. D. = 30.43, $\underline{T}_0'$ = 31.49, S. D. = 33.33 .

Total sample: $\underline{S}_0$ = 32.57, S. D. = 27.30 ; $\underline{S}_0'$ = 31.75, S. D. = 34.72 ;
$\underline{T}_0$ = 32.00, S. D. = 31.22 ; $\underline{T}_0'$ = 32.95, S. D. = 33.29 .

* $p < .05$ ** $p < .01$

tions, $r_{T_1V_2}$, $r_{T_2V_2}$, and $r_{T_0V_2}$, were between three cooperating-teacher variables and V_2, affectively-oriented student teachers' perception of cooperating teacher's affective merit. The fourth significant correlation was $r_{T_2V_0}$, between cooperating teachers' "favorable versus unfavorable attitudes towards children" and affectively-oriented student teachers' total score ratings of the cooperating teachers' merit. These significant results with V_2 suggest more affectively-oriented students were more concerned with affective warmth and support, thus their affective merit ratings were more positively related to cooperating teachers' affective attitudes toward young people.

In results for the most cognitively-oriented sub-sample, correlations between all cooperating teachers' T_n variables with V_1 (students' perception of cooperating teachers' general merit) were higher than the same correlations were for the affectively-oriented. These differences in correlations suggest that the more cognitively-oriented students may have been more concerned with and so more sensitive to cooperating teachers' general abilities as leaders than in their merits as warm, supportive figures.

In support of Hypothesis Three, a critical ratio of 2.08 (Fisher's z transformation, $p < .01$) was found in the difference of .49 between lower and upper groups' correlations of $T_1'V_2'$. As hypothesized, correlations between cooperating teachers' Mod MTAI scores and affective merit measures were higher for the most affectively-oriented student teachers than the same correlations were for the most cognitively-oriented student teachers. The pattern of difference in correlations of other variables with V_2 and V_2' are mostly in the hypothesized direction.

These results support the interactional approach to understanding the relationship between student teacher and his leaders. As leaders' attitudes and student teachers' need-dispositions vary, their relationship should change with same degree of predictability. To the extent that the Mod MTAI measures cooperating teachers' effectiveness in working with learners, cognitively-oriented student teachers appear to relate such effectiveness to general merit and affectively-oriented student teachers relate such effectiveness to affective merit.

Posttest Affective and Cognitive Groups. Table 18 presents the correlations of cooperating-teacher and student-teacher measures for subsamples classified by students' *posttest* *F*-scores. Some of these results contrast sharply with those discussed above for the extreme groups found with pretest *F*-scores.

Before examining the results for these posttest groups, we should study the stability of the four extreme groups' cognitive-affective need-dispositions. Test-retest correlations of $r_{FF'} = -.02$ for those most affectively-oriented at pretest and $r_{FF'} = .07$ for those most affectively-oriented at posttest indicate little stable relationship between affectively-oriented individuals' pre- and posttest scores. For the most cognitively-oriented students at pretest, the test-retest correlation is $r_{FF'} = .46$; for those most cognitively-oriented at posttest, $r_{FF'} = -.24$.

The *F*-score means and standard deviations for the four extreme groups indicate that the student teachers in these groups did not shift from one extreme to the other. Rather, they shifted from or to more extreme cognitive or affective need-dispositions. Their greatest polarity can be traced in the standard deviations, except for the posttest affective group. Respective pre- and posttest *F*-score means and standard deviations for the groups are as follows: pretest cognitive, 44.5 to 42.1, 2.3 to 7.6; pretest affective, 22.3 to 26.4, 7.8 to 12.1; posttest cognitive, 40.5 to 45.9, 8.9 to 2.4; and posttest affective, 27.3 to 19.2, 8.5 to 9.3. For comparison, total sample's pretest *F* mean is 34.5 with S.D. of 9.7 and posttest *F'* mean is 34.6 with S.D. of 11.7.

These coefficients of stability indicate that those who were more cognitively-oriented at the beginning of the student-teaching period were fairly stable in need-disposition. Those who were most cognitively-oriented at posttest had shifted their opinions somewhat from pre- to posttest. The negative stability coefficient for this extreme group at posttest suggests that these students shifted to this cognitive position from a more affective need-disposition at pretest. Such a shift offers a possible explanation for the higher correlations between T_n scores and V_2 scores for the more cognitive group at pretest than among the more affective group. At the pretest occasion, the student teachers in the more

Table 18

Correlations, Means, Standard Deviations of Pre- and Posttest Attitude Measures of Student Teachers Most Cognitively-Oriented or Affectively-Oriented at Posttest and Their Cooperating Teachers

(N = 35 for each group)

Pretest			**Posttest**			**Differences Between rs**	
rs	**Cognitive**	**Affective**	**rs**	**Cognitive**	**Affective**	**Pretest**	**Posttest**
$\underline{r}_{T_0V_1}$	.27	-.13	$\underline{r}_{T_0'V_1'}$	.13	-.21	.40	.34
$\underline{r}_{T_0V_2}$	.10	.01	$\underline{r}_{T_0'V_2'}$	-.08	-.08	.09	.00
$\underline{r}_{T_0V_3}$	.21	-.05	$\underline{r}_{T_0'V_3'}$	.17	-.26	.26	.43
$\underline{r}_{T_0V_0}$	.20	-.06	$\underline{r}_{T_0'V_0'}$	.08	-.21	.26	.29
$\underline{r}_{T_1V_1}$	.38*	-.04	$\underline{r}_{T_1'V_1'}$	.05	-.16	.42	.21
$\underline{r}_{T_1V_2}$	.16	.27	$\underline{r}_{T_1'V_2'}$	-.03	-.20	.11	.17
$\underline{r}_{T_1V_3}$	.32	-.01	$\underline{r}_{T_1'V_3'}$	.14	-.20	.33	.34
$\underline{r}_{T_1V_0}$	.30	.11	$\underline{r}_{T_1'V_0'}$	.07	-.12	.19	.19
$\underline{r}_{T_2V_1}$	.24	-.03	$\underline{r}_{T_2'V_1'}$	-.12	-.13	.27	.01

Table 18 (continued)

	Pretest			Posttest		Differences Between $\underline{r}$s	
$\underline{r}$s	Cognitive	Affective	$\underline{r}$s	Cognitive	Affective	Pretest	Posttest
$\underline{r}_{T_2V_2}$	.16	-.05	$\underline{r}_{T_2'V_2'}$	-.11	-.20	.21	.09
$\underline{r}_{T_2V_3}$	.22	.03	$\underline{r}_{T_2'V_3'}$	.03	-.11	.19	.14
$\underline{r}_{T_2V_0}$	.22	-.02	$\underline{r}_{T_2'V_0'}$	-.06	-.17	.24	.11
$\underline{r}_{T_3V_1}$	.27	-.29	$\underline{r}_{T_3'V_1'}$	.21	.11	.56*	.10
$\underline{r}_{T_3V_2}$	-.01	.06	$\underline{r}_{T_3'V_2'}$	-.13	.07	.07	.20
$\underline{r}_{T_3V_3}$	.19	-.07	$\underline{r}_{T_3'V_3'}$	.15	-.06	.26	.21
$\underline{r}_{T_3V_0}$	.15	-.09	$\underline{r}_{T_3'V_0'}$	.06	-.04	.24	.10
$\underline{r}_{T_1S_1}$	.01	.00	$\underline{r}_{T_1'S_1'}$	.21	-.27	.01	.48
$\underline{r}_{T_2S_2}$	.11	.03	$\underline{r}_{T_2'S_2'}$	.28	-.04	.08	.32
$\underline{r}_{T_3S_3}$	.17	-.20	$\underline{r}_{T_3'S_3'}$	.02	-.02	.37	.04

Table 18 (continued)

Most cognitive: $\underline{S}_0$ = 35.54, S. D. = 27.21 ; $\underline{S}_0'$ = 31.51, S. D. = 38.46 ;
$\underline{T}_0$ = 38.11, S. D. = 28.59 ; $\underline{T}_0'$ = 37.09, S. D. = 35.05 .

Most affective: $\underline{S}_0$ = 27.34, S. D. = 29.19 ; $\underline{S}_0'$ = 28.77, S. D. = 32.96 ;
$\underline{T}_0$ = 37.94, S. D. = 30.66 ; $\underline{T}_0'$ = 42.29, S. D. = 28.90 .

Total sample: $\underline{S}_0$ = 32.57, S. D. = 27.30 ; $\underline{S}_0'$ = 31.75, S. D. = 34.72 ;
$\underline{T}_0$ = 32.00, S. D. = 31.22 ; $\underline{T}_0'$ = 32.95, S. D. = 33.29 .

* $p < .05$

cognitive group at posttest had been more affectively-oriented. Therefore, as stated in H_3, their pretest affective merit measures would correlate more closely with $\underline{T}_n$ scores. At posttest, when they are the sample's most cognitively-oriented students, these students' attitudes correlate mostly lower with $\underline{T}_n$' variables, especially in correlations with $\underline{V}_2$' .

It may be that these students became more cognitively-oriented because they found their cooperating teachers' affective behavior toward them less relevant to the tasks that confronted them in the classroom. Their methodological and knowledge shortcomings may have caused them to attach more value to such cognitive matters and less to affective need-dispositions. Perhaps their cooperating teachers encouraged such a shift in emphasis. Also, the students may have overcome their initial anxieties concerning student teaching when they would desire more affective support and sympathy and turned to the tasks of learning and practicing classroom instruction and requirements.

Despite the negative stability of $\underline{F}$-scores for the cognitive group at posttest, their $\underline{F}$ and $\underline{F}$' means are fairly high, 40.5 and 45.9, respectively. It may be that the lower pretest $\underline{F}$-score reflects ambivalence and uncertainty at the start of student teaching. The change in standard deviation from 8.9 to 2.4 strongly suggests pre- to posttest stabilization of need-dispositions.

Results for the most affective group at the posttest occasion are more difficult to interpret. It can be seen in Table 18 that the pretest correlations are negative for this group, and the correlations are more negative at posttest. As mentioned above, the stability coefficient for this group's $\underline{F}$-scores is .07, meaning there is little relationship between pre- and posttest need-dispositions. These students, however, were fairly affective at pretest ($\underline{F}$ mean = 27.3) and became even more affectively oriented at posttest ($\underline{F}$' mean = 19.2). Such results in stability and means suggest that these students were ambivalent, uncertain, and perhaps more apprehensive than others at the beginning of student teaching and became more dependent on their leaders' affective support. The shift in standard deviations from 8.5 to 3.9 support such stabilization of need-dispositions. Because such behavior seems antithetic to independent, classroom effectiveness, we raised these questions: Why did these student teachers show such prominence in affective need-disposition toward the end of their student-teaching period? Why do their V_n merit ratings of cooperating teachers and cooperating teachers' T_n attitudes correlate so negatively, especially with posttest measures? Before an attempt is made to offer answers, let us see what further information we can find for these student teachers.

We find that these students' V_n ratings increased from pre- to posttest, especially in ratings of affective merit (V_2). (There are similar but only slight changes in U_n measures.) At pretest, the V_2 mean is 16.51 with S. D. of 4.56 and increases significantly to 18.49 with S. D. of 4.37 for V_2' ($p < .05$). The other merit dimensions did not differ significantly from pre- to posttest, but were already as high as V_2' or higher at pretest. At pretest, we find that T_1 and V_2 correlate positively ($r = .27$), which is this group's most positive correlation at either testing occasion. It involves cooperating teachers' "traditionalistic versus modern beliefs about child control" (T_1) and student teachers' perception of cooperating teachers' affective merit. With the same variables, however, the posttest results show $r_{T_1'V_2'} = -.21$. Comparable results with supervisors' measures are: $r_{C_1V_2} = .03$ and $r_{C_1'V_2'} = .25$. Also, the stability of $T_1 - T_1'$ is greater ($r = .72$) than $C_1 - C_1'$ ($r = .21$), $V_2 - V_2'$ ($r = .66$), and $V_2 - V_2'$ ($r = -.01$). Another item of interest is that these students have the lowest Mod MTAI scores of any of the four upper and lower 27% groups (see Tables 17 and 18). Also, a larger proportion of the elementary sub-sample (.36) is represented in this affective group than from the secondary sub-sample (.24).

With this information, we piece together some possible explanations for the questions above: These student teachers concluded their practice teaching with the greatest affective needs as expressed by themselves. At the same time, however, they were low in affective attitudes toward young people. They rated their cooperating teachers' affective merit significantly better at posttest than at pretest, but the relationship of such affective ratings to cooperating teachers' attitudes toward young people became more negative from pre- to posttest. Thus, a picture emerges of students who became more concerned with themselves and dependent on their leaders' affective sentiment and sympathetic support. These student teachers may have really required such interpersonal solace, because they were less inclined and able to give learners the affective warmth they so desired from and rated so well for their leaders.

The correlations of $r_{T_1V_2} = .27$ and $r_{T_1'V_2'} = -.21$ suggest that these student teachers were more "accurate" at pretest than at posttest in relating their affective ratings to cooperating teachers' attitudes toward the control of young people. Since the correlations change from positive to negative as students' affective ratings toward cooperating teachers' (V_2') increased, the student may have been perceiving cooperating teachers' affective merit mostly in terms of the interpersonal relations between himself and the teachers. As a consequence, these student teachers misperceived the merit of cooperating teacher's affective behavior toward learners. The significant difference of .56 between posttest cognitive group's and affective group's T_3 and V_1 correlations of .27 and -.29, respectively, supports this impression.

There is a reversed pattern in the relationship between these affective students and their supervisor. The amount of change in attitudes that can be seen in the test-retest rs: $r_{T_1T_1} = .72$, $r_{C_1C_1} = .21$, and $r_{V_2V_2} = -.01$ indicate that both supervisors and students in this group changed attitudes more than the cooperating teacher. The shifting from pre- to posttest appears to bring these supervisors' and students' attitudes more closely together, and these students' affective needs may have been best fulfilled by the supervisor.

There are interesting differences between the leaders' evaluations of these posttest affective students. While the correspondence between the letter grades that leaders gave these students is very close, the Q_C' and Q_T' ratings do not correspond as well as can be seen in Table 23. The letter grades assigned individuals in this group (Table 22) show that these students received high grades from their leaders and were graded higher than the most cognitively-oriented students at posttest.

If such affective behavior of student teachers is taken as less desirable for effective classroom teaching and leadership, then we must seriously consider the revision of evaluation procedures used in student teaching. Suspicions that leaders' biases operate in the evaluation process may be expected, but there is some indication here that leaders in student teaching may be completely misplacing the object of their evaluations. They may be evaluating their affective relationships with student teachers more than the students' actual merits as a prospective teacher capable of effective classroom work on his own.

In the preceding analyses for Hypothesis Three, we find that the hypothesis was supported for both cognitive groups and the affective group at pretest. However, results were contradictory for the most affective student teachers at posttest, but were in keeping with the interactional point of view as we have interpreted such results. From the interpretations we were able to develop, it appears that as extreme groups at pretest become less one-sided in their appeals for cognitive or affective support, their relationships with cooperating teachers move in the direction predicted. Differences appeared in results for the extreme groups at posttest, as they became more one-sided from pre- to posttest in their appeals for cognitive or affective support. In the interaction between most affectively-oriented student teachers at posttest and their cooperating teachers, the relationships found suggest these student teachers developed greater self-gratification of their own affective requirements, which have negative relevance to their learners' needs. The more cognitively-oriented students at posttest appears to have less contradictory results, and their relationships with cooperating teachers approximate the results for the pretest cognitive group.

Leaders' Ratings of Affectively-Oriented and Cognitively-Oriented Student Teachers. Following suggestions from results of the preceding correlational analyses, we proceeded to ascertain if leaders' evaluations differentiate between cognitively- and affectively-oriented student teachers.

We examined two sets of ratings given each student by his two leaders. Tables 19 - 22 show the ratings derived from a 7-point, 9-item scale on the leaders' posttest questionnaires and the letter grades given by college supervisors and cooperating teachers to students ranking in the upper 27% and in the lower 27% at both test occasions. We ascertained whether the ratings of cooperating teachers and supervisors were above or below the total sample's medians for such ratings. Then we found the letter grades given students by their respective teachers.

With total elementary N of 44 and secondary N of 80, we calculated the proportions of elementary and secondary sub-samples represented in each of the four extreme groups. The results at the bottoms of Tables 19 - 22 indicate that more secondary students tend to be cognitively-oriented and

Table 19

Ratings Given by College Supervisors and Cooperating Teachers to Most Cognitively-Oriented Student Teachers at Pretest

(N = 35)

Triad Number	Elementary or Secondary*	F Score	Q_C'	Q_T'	G_C'	G_T'
0502101	S	41	35	22	C-	C-
0802052	S	41	53	53	B+	A
1001051	S	41	48	53	B	A-
1007123	S	41	38	49	B	B+
0506061	S	42	59	50	A	A
0508083	S	42	50	54	A-	A-
0812112	S	42	45	47	B	B
0108043	E	43	26	32	C	C
0109002	E	43	51	55	A	A
0202040	E	43	51	63	A	A
0313023	E	43	56	59	A	A
0414019	E	43	34	50	B	A-
0602088	S	43	59	54	A-	A
0810128	S	43	47	47	B-	B
1103118	S	43	57	43	B+	B-
0505077	S	44	50	54	A-	A-
1014067	S	44	50	47	A-	A
0104010	E	45	35	17	B	C
0309007	E	45	63	52	A	A
0311020	E	45	62	62	A	A
0605104	S	45	63	63	A	A+
0915107	S	45	60	55	A	A
1207125	S	45	54	49	A	B+
1208087	S	45	63	51	A	A
0303011	E	46	31	45	B	B
0509081	S	46	59	63	A	A

Table 19 (continued)

Triad Number	Elementary or Secondary*	F Score	Q_C'	Q_T'	G_C'	G_T'
0512063	S	46	56	60	A	A
0105009	E	47	26	16	C	D
0801049	S	47	56	48	A-	A
0813102	S	47	50	34	B	C
1201095	S	47	53	26	A	C
0903076	S	48	57	46	A-	A-
0916090	S	48	59	59	A	A
0409018	E	49	43	26	B	C
0901124	S	49	32	41	C+	B

* 24 secondary student teachers, .30 of secondary sub-sample.
11 elementary student teachers, .25 of elementary sub-sample.

Table 20

Ratings Given by College Supervisors and Cooperating Teachers to Most Affectively-Oriented Student Teachers at Pretest

(N = 35)

Triad Number	Elementary or Secondary*	$\underline{F}$ Score	$\underline{Q}_C'$	$\underline{Q}_T'$	$\underline{G}_C'$	$\underline{G}_T'$
0302014	E	0	33	43	B	B
0403004	E	6	61	58	A	A
0805099	S	8	54	40	A-	B+
1104035	S	9	48	56	B-	B
0914094	S	12	52	47	B+	B+
0301008	E	14	40	57	B	A-
0411037	E	14	62	63	A	A
0911068	S	16	52	46	A-	A-
1008050	S	18	55	57	A	A
1006114	S	19	41	41	B	B-
0418012	E	21	31	52	B	B
0814065	S	23	49	39	B-	B+
0910062	S	23	53	54	A-	A-
1015079	S	23	48	44	A-	B+
0307047	E	24	57	56	A	A-
0312027	E	24	49	55	A-	A-
0808064	S	24	57	54	A	A
0811117	S	24	62	59	A	A
0107036	E	25	41	49	B	A-
0803060	S	25	51	43	A-	B
0912111	S	25	54	55	A-	A-
0310044	E	26	46	49	B	B+
1203098	S	26	54	45	A	A
0514116	S	28	52	47	A-	A-
0701113	S	28	41	49	A-	A-
0918082	S	28	49	50	B+	B+

Table 20 (continued)

Triad Number	Elementary or Secondary*	F Score	Q_C'	Q_T'	G_C'	G_T'
0101028	E	29	44	49	B+	B+
0412042	E	29	60	62	A	A
1004055	S	29	44	49	B	B
0408034	E	30	29	36	B	A-
0413022	E	30	45	54	A	A
0415029	E	30	50	63	A	A
0417031	E	30	60	55	A	A
1002130	S	30	38	34	B+	B-
1206075	S	30	63	52	A	A

* 20 secondary student teachers, .25 of secondary sub-sample.

15 elementary student teachers, .34 of elementary sub-sample.

Table 21

Ratings Given by College Supervisors and Cooperating Teachers to Most Cognitively-Oriented Student Teachers at Posttest

(N = 35)

Triad Number	Elementary or Secondary*	$\underline{E}'$ Score	$\underline{Q}_C'$	$\underline{Q}_T'$	$\underline{G}_C'$	$\underline{G}_T'$
0401046	E	42	14	26	C	C
0913092	S	42	60	55	A	A
1011120	S	43	23	35	C	C
0109002	E	43	51	55	A	A
0915107	E	43	60	55	A	A
0509081	S	43	59	63	A	A
0909105	S	44	52	52	A-	A-
1208087	S	44	63	51	A	A
0903076	S	44	57	46	A-	B+
0511054	S	44	54	60	A	A+
0513108	S	44	53	54	A	A
0607006	S	44	63	29	A	C
0908074	S	45	45	31	B	B
0605104	S	45	63	63	A	A+
1207125	S	45	54	49	A	B+
0106024	E	45	38	56	B	A
1003096	S	46	49	61	A	A-
0313023	E	46	56	59	A	A
1009127	S	47	55	57	A	A-
0502101	S	47	35	22	C-	C-
0801049	S	47	56	48	A-	A
1102001	S	47	53	63	B+	A
0202040	E	48	51	63	A-	A
0311020	E	48	62	62	A	A
0409018	E	48	43	26	B	C
0901124	S	48	32	41	C+	B

Table 21 (continued)

Triad Number	Elementary or Secondary	F' Score	Q_C'	Q_T'	G_C'	G_T'
0914094	S	48	52	47	B+	B+
1103118	S	49	57	43	B+	B-
0303011	E	49	31	45	B	B
0813102	S	49	50	34	B	C
1201095	S	49	53	26	A	C
1104035	S	49	48	56	B-	B
0305033	E	49	46	58	A	A-
0402039	E	49	54	63	A	A
0410032	E	49	39	49	B	B+

* 23 secondary student teachers, .29 of secondary sub-sample.

12 elementary student teachers, .27 of elementary sub-sample.

Table 22

Ratings Given by College Supervisors and Cooperating Teachers to Most Affectively-Oriented Student Teachers at Posttest

(N = 35)

Triad Number	Elementary or Secondary	F' Score	Q_C'	Q_T'	G_C'	G_T'
1004055	S	0	44	49	A	A
0805099	S	3	54	40	A-	B+
1008050	S	3	55	57	A	A
0501069	S	3	54	55	A-	A-
0601066	S	4	52	41	B	B
0802052	S	6	53	53	B+	A-
0411037	E	9	62	63	A	A
0606059	S	11	41	38	B-	C
0910062	S	13	53	54	A-	B-
0503085	S	13	55	55	A	A
0417003	E	14	60	55	A	A
0403004	E	16	61	58	A	A
0101028	E	17	44	49	B+	B+
0307047	E	18	57	56	A	A-
0310044	E	18	46	49	B	B+
1006114	S	19	41	41	B	B-
0201005	E	20	38	53	A	A
0408034	E	21	29	36	B	B+
0701113	S	24	41	49	A-	A-
1005089	S	24	54	63	B	B
0415029	E	25	50	63	A	A
0416025	E	25	18	32	C	B-
0301008	E	26	40	57	B	A-
1203098	S	26	54	45	A	A
0418012	E	27	31	52	B	B
0103016	E	27	32		B-	B

Table 22 (continued)

Triad Number	Elementary or Secondary*	F' Score	Q_C'	Q_T'	G_C'	G_T'
0404030	E	27	37	36	B	B
1206075	S	28	63	52	A	A
0407015	E	28	35	52	B	B+
0702100	S	28	50	60	A	A
0912111	S	29	54	55	A-	A-
0904103	S	29	52	56	B+	A-
0911068	S	30	52	46	A-	A-
1015079	S	30	48	44	A-	B+
0413022	E	30	45	54	A	A

* 19 secondary student teachers, .24 of secondary sub-sample.
16 elementary student teachers, .36 of elementary sub-sample.

that more elementary students tend to be affectively-oriented. The greatest difference of .12 in the extreme affectively-oriented group at posttest (Table 22) was not statistically significant when tested by application of $\underline{x}^2$ for the difference between proportions.

There were no statistically significant differences between the two groups in the numbers of student teachers rated above and below the post-questionnaire medians (results given in Table 23). However, some interesting trends should be noted. Less (14) college supervisors' $\underline{Q}_C$' ratings for members of the posttest affectively-oriented group is above the median for such ratings than below the median (21). Cooperating teachers' $\underline{Q}_T$' ratings for the same group is in the direction of favorability for these affectively-oriented student teachers, i.e., 20 above and 15 below the median. Frequencies for the posttest cognitive group are equivalent between leaders and in relation to median. The greatest difference is found in the supervisors' $\underline{Q}_C$' ratings for the pretest affectively-oriented group, i.e., 13 above and 22 below median. In these results, some tendency for contradictory ratings between leaders may be present. As we have suggested already, leaders' evaluative ratings of student teachers may not be as objective and valid as believed.

Table 24 presents the letter grades assigned to the four groups. The number of A's awarded to the groups by supervisors and cooperating teachers are quite similar. However, the more cognitively-oriented student teachers received fewer B's and more C's than did the more affectively-oriented groups. The more affectively-oriented student teachers received more B's and fewer C's.

Comments written on posttest questionnaires by both college supervisors and cooperating teachers suggest that C students and the one D student among the extreme cognitive groups were regarded as less committed to teaching and not truly interested in young people. The two students among the extreme affective groups who received C's were considered to be less apt, because one was "frightened of her tasks" and thus inept in working with learners and the other lacked initiative credited mostly to poor supervision by the college supervisor.

Table 23

Frequencies of Leaders' Q_C' and Q_T' Ratings for Pre- and Posttest Cognitive and Affective Groups Above or Below Total Sample's Q_C' and Q_T' Medians

Test Occasion		Cognitively-Oriented		Affectively-Oriented	
		Above Median	Below Median	Above Median	Below Median
Pretest	Q_C'	17	18	13	22
	Q_T'	16	19	17	18
Posttest	Q_C'	18	17	14	21
	Q_T'	19	16	20	15

* Q_C' median = 53.0
Q_T' median = 50.5

Table 24
Leaders' Letter Grade Ratings of Most Cognitively- and Affectively-Oriented Student Teachers

Grade	Cognitively-Oriented*		Affectively-Oriented**	
	Supervisor	C. Teacher	Supervisor	C. Teacher
At Pretest Occasion (*F*):				
A	20	21	21	21
B	11	7	14	14
C	4	6	0	0
D	0	1	0	0
At Posttest Occasion (*F*'):				
A	21	19	20	20
B	10	9	14	14
C	4	7	1	1
D	0	0	0	0

* Upper 27%   ** Lower 27%

Except for two cases, affectively-oriented student teachers in this study received only A and B grades from their leaders and that almost one-third of the cognitively-oriented students received C or D grades. A C grade in student teaching at this institution is tantamount to an unsatisfactory rating. Since less than a B grade is expected to be regarded as near-failure by school personnel officials, those cognitively-oriented student teachers who are perceived by their leaders as showing lack of interest in teaching and children are rated as less desirable teachers. Apparently, supervisors and cooperating teachers perceive affectively-oriented student teachers as interested in teaching and children, even though such student teachers do express strong need-dispositions of sentiment and sympathetic support from their leaders rather than those of learning and instruction to develop greater teaching proficiency.

Table 25 indicates a fair degree of disagreement between the $\underline{Q}_C$' and $\underline{Q}_T$' ratings of leaders. The per cent disagreement in the four groups ranges from about 23 per cent to about 37 per cent. The practical significance of such disagreement should be considered serious when evaluation in student teaching is assumed to be valid and capable of producing reliable estimates of the worth and competence of prospective teachers.

There are also differences in leaders' agreement in the assignment of letter grades. Disregarding plus and minus marks, the number of leader dyads disagreeing in each group are as follows: at pretest, cognitive - 11 (31%) and affective - 6 (17%); at posttest, cognitive - 9 (26%) and affective - 8 (23%).

Our data is not sufficient to allow for more than tentative inferences at this time, but it may be that supervisors' and cooperating teachers' perceptions of student teachers are loaded with error variance. One group that received lower grades was not overly concerned with pleasing leaders and receiving sentiments, but was apparently interested in learning to be teachers. Another group that received higher grades was overly concerned with pleasing leaders and obtaining their sentiments, but was less directly interested in learning and instruction. As can be seen at the bottom of Tables 17 and 18, the most cognitively-oriented student teacher groups have more positive (statistically equivalent) attitudes toward young people and teaching as a career than the affectively-oriented (lower 27%)

Table 25

Leaders' Agreement in $\underline{Q}_C$' and $\underline{Q}_T$' Ratings in Relationship to Medians for Such Ratings

Test Occasion	Cognitively-Oriented		Affectively-Oriented	
	Agreement*	Disagreement**	Agreement	Disagreement
Pretest	24	11	27	8
Posttest	22	13	25	10

*Agreement classified by college supervisors' and cooperating teachers' ratings both above or below medians.

**Disagreement classified by one or the other leader being above or below median and other leader's rating is opposite in relation to median.

student groups. Certainly contradictions between the evaluations of student teachers by supervisors and cooperating teachers suggest very serious problems in how teacher preparation centers ascertain the quality of individual candidates.

Hypothesis Four

The Frequencies-of-Change-in-Product-Moment technique (Yee and Gage, 1966) was applied to cooperating teachers' and student' total Mod MTAI attitude measures to test H_4. Following the procedures for this technique as described in Chapter II, we obtained the following results:

(1) Cooperating teacher influencing student teacher to shift congruently (TC) = 41.
(2) Cooperating teacher influencing student teacher to shift incongruently (TI) = 38.
(3) Student teacher influencing cooperating teacher to shift congruently (SC) = 21.
(4) Student teacher influencing cooperating teacher to shift incongruently (SI) = 24.

As hypothesized in Chapter II:

H_{4a} = (TC + TI) > (SC + SI) or (79) > (45), $\underline{x}^2 = 8.78$, $p > .01$.

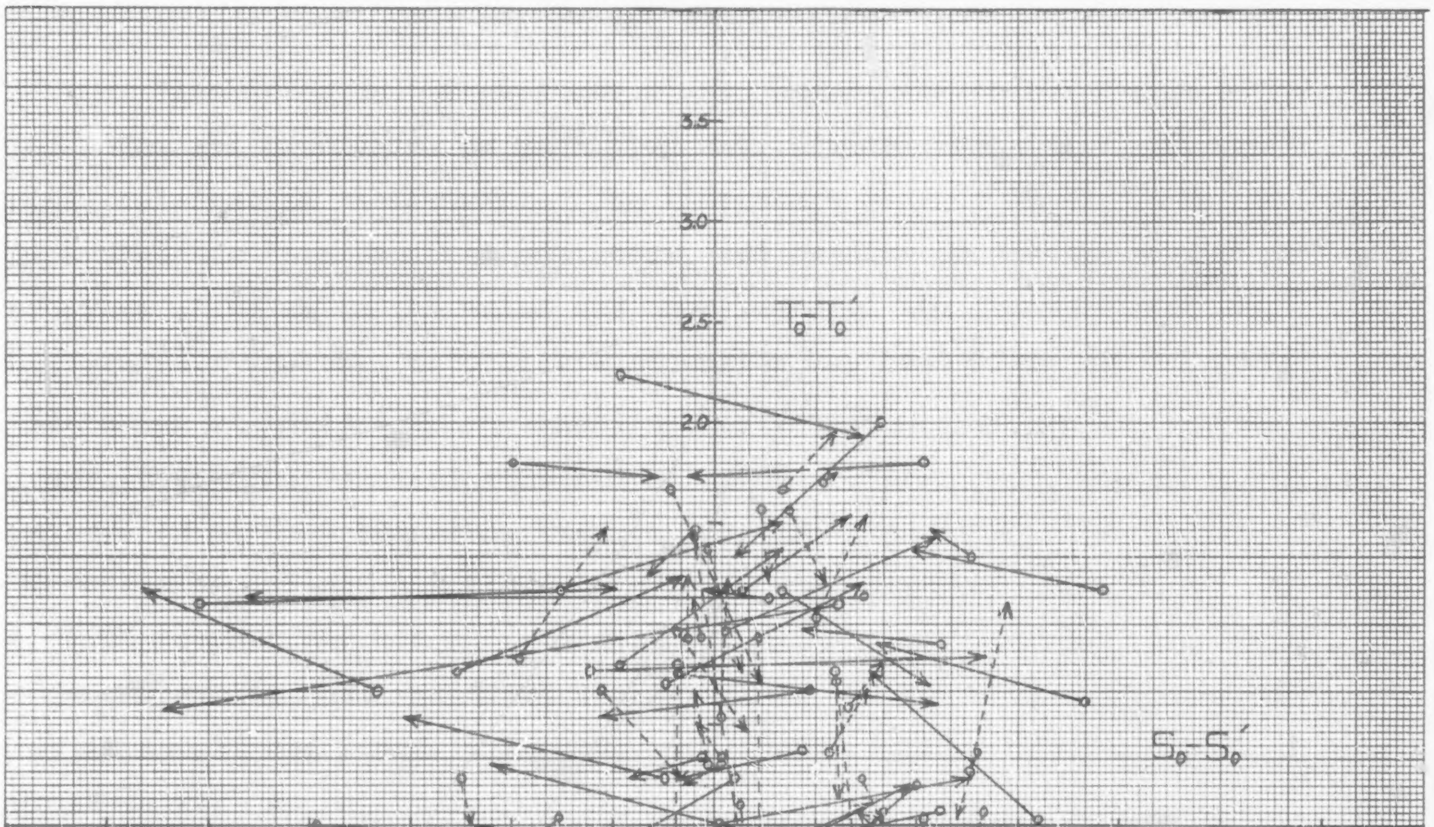
H_{4b} = (TC) > (SC) or (41) > (21), $\underline{x}^2 = 5.82$, $p > .01$.

H_{4c} = (TI) > (SI) or (38) > (24), $\underline{x}^2 = 2.73$, $p > .05$.

During the student-teaching period, therefore, significant $\underline{x}^2$ results show that cooperating teachers' attitudes caused student teachers' attitudes to shift in both the congruent and incongruent direction more than student teachers caused cooperating teachers' attitudes to shift. Student teachers were influenced by their cooperating teachers to shift their attitudes towards young people and school in the congruent direction, i.e., closer to the attitudes held by the cooperating teacher. In addition, almost the same number of student teachers, with a lower advantage in frequencies favoring the leader, were influenced by their cooperating teachers to shift their attitudes incongruently, i.e., away from those held by the cooperating teacher. In the dyadic relationship involving cooperating teachers and student teachers, the cooperating teacher was the overwhelming source of influence. It should be noted that attitude change in these dyads is mostly in the incongruent direction. This means that student teachers' and cooperating teachers' attitudes tend to be further apart at posttest than at pretest.

One method of graphically demonstrating such direction of influence can be seen in the next page where cooperating teacher-student teacher dyads are plotted from pre- to posttest occasion. There are far more horizontal shifts, i.e., student teacher changing more than cooperating teacher, than vertical shifts, i.e., cooperating teacher shifting more than student teacher.

Classroom observations. At least one observation, lasting about 15 minutes, was attempted for all classes using Ryan's Classroom Observation Record. However, problems of scheduling observations caused this method of data collection to be incomplete and unreliable. We could not easily arrange observations when all triadic members were present, because of the infrequent times that the triad actually met together as an interacting group. Also, we could not easily schedule observations when student teachers were actively participating in the classroom, especially to provide unrehearsed and natural classroom interaction. Thus, no analysis of such observations will be made.



Plot of Shifts from
Pretest Occasion to Posttest Occasion

$r_{T_0S_0} = .09$, $r_{T_0'S_0'} = .14$

N = 124 cooperating teachers and
their student teachers

Raw scores converted to standard
scores

Chapter IV

Conclusions and Implications

Teacher education programs of the United States now number about 700. For all candidates in such programs, student teaching is an essential, culminating requirement. The literature abounds in testimonials from students, professional educators, and critics of teacher education programs alike as to the value and importance of the student-teaching experience. However, very little attention has been given to the identification of factors which significantly determine the nature of outcomes in student-teaching experiences. Not knowing for sure *what* really matters in student teaching, very little empirical research has been conducted to explain *how* student teaching significantly affects the student teacher and his professional work. Until much greater knowledge concerning what variables really matter and how they effect behavior is sought and found, systematic improvements in student-teaching programs will be unlikely.

Based on the belief that interactional approaches embrace the most significant variables commonly operating in educational settings, this study was attempted to provide further understanding of the interpersonal behavior events involving the student teacher, his college supervisor, and his cooperating teacher. As a pilot study, this work presents and demonstrates a theoretical approach to the study of interaction in the student-teaching situation.

The theoretical framework for this study was developed around the student-teaching triad, i.e., the small group comprised of two dyads between student teacher and each of his leaders and a dyad between the two leaders with each other. The triad, therefore, was viewed as one interacting unit composed of three distinct dyad relationships.[1] The framework was derived from a review of literature on the following topics: (1) present-day trends in improving teacher education; (2) individual's characteristics; (3) interaction processes; (4) dyadic relationships; (5) equilibrium theory; and (6) small group relationships.

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[1] In a dissertation completed in 1963 under the supervision of W. W. Charters, Jr., R. L. Holeman also considers triadic systems in student

Utilizing this framework, we raised questions and made predictions concerning the interpersonal behavior events involving the student teacher acting as a follower and his college supervisor and cooperating teacher acting as leaders. We asked: What patterns in triadic relationships are there at the beginning and toward the end of the student-teaching period? Thus, we hypothesized that the triadic attitude relationships in the small group involving student teacher, college supervisor, and cooperating teacher will show shift from initial contacts to concluding contacts as triadic members strive to maintain or achieve cognitive equilibrium (Hypothesis One or H_1).

We also asked the following questions: What effects do characteristics of leaders and students have on the leaders' evaluation of student's effectiveness and potential as a classroom teacher? Do the characteristics of student teachers determine what characteristics of the supervisor and cooperating teacher will influence the student's evaluation and acceptance of them? Thus, since the MTAI is a measure of a person's affective merit rather than his cognitive merit, we hypothesized that measures of the MTAI for leaders may be said to correlate positively with students' ratings of leaders (Hypothesis Two or H_2). Also, it was further hypothesized that the MTAI scores of leaders correlate with students' ratings of their leaders where students value more highly the social-emotional need-mediating behavior of such leaders (Hypothesis Three or H_3).

We also asked if the direction of influence was from leader to

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teaching. Using Newcomb's ABX Model, Holeman investigated change in pre- and posttest attitudes of student teachers toward leaders' attitudes measured at pretest. It was found that "those student teachers who were highly attracted toward their advisor had a greater increase in level of agreement with that advisor than student teachers who had a low level of attraction toward their advisor" (Holeman, 1966, p. 13). Although some similarities can be seen between Holeman's approach and this study's, our data includes posttest measures of leader's attitudes, and our hypotheses and procedures differ somewhat.

candidate? Thus, it was hypothesized that the direction of influence between leaders and student teacher will be from the leaders to the student teacher (Hypothesis Four or H_4).

The results indicate that the student-teaching triad does tend to change between pre- and posttest attitude relationships. The character of change as found in our results seems detrimental to the triad as a well-functioning group, as the triad becomes much less likely to be composed of all positive dyadic relationships over time. Most of the triads studied developed more negative attitude relationships in the interim between pre- and posttest occasions. The posttest triad tends to be more composed of a positive relationship or coalition between cooperating teacher and college supervisor and negative relationships between student teacher and his two leaders. The triad, therefore, becomes less viable as an attractive group to its members, especially in relationships involving the student teacher.

The primary objective of student teaching is supposedly to help prepare the student teacher for future independent, classroom teaching and evaluate his potential worth as a teacher. The results found for attitude relationships in student-teaching triads indicate very great need to find means of improving what is essentially the educational setting in student teaching -- the interpersonal relationships in the triad. Perhaps the most useful contribution of this study is its emphasis on interaction in the student-teaching triad and the interpersonal relationships operating in it. Approaching any student-teaching concern, such as objectives, personnel, evaluation, daily activities, etc., we can start from the triad framework and formulate approaches and operational procedures to handle the concern.

This study's results indicate that the foremost concern for workers in student teaching is developing greater cohesiveness and interaction in the student-teaching triad. Our study of 124 triads leads us to believe that the triad relationships more often resemble competitive triad settings than cooperative triad situations (Deutsch, 1949a; Raven and Eachus, 1963; Crombag, 1966). In the competitive situation, the triad members perceive each other as "contriently interdependent" with respect to their goals and coalitions are more likely to form than in the cooperative situation. In the cooperative type triad, members perceive each other as "promotively interdependent" with respect to their goals (Deutsch, 1949b).

The reason that the student-teaching triad shifts toward negative relationships and resembles competitive situations rather than cooperative ones may very well be that typical student-teaching programs provide little opportunity and purpose for meaningful interaction. The primary objective of student-teaching would seem to require meaningful and sustained cooperation between triad members. Therefore, to achieve the objective for most student teachers, sufficient conditions for cooperative type triads should be provided.

One step to foster positive interaction and morale in triads would be to consider better methods of matching triad members together than the random methods now used by most institutions. This improvement would be best developed when more is known about triad members. We need to know more about cooperating teachers' and college supervisors' leadership styles and effects of special training for their work with student teachers. These are important considerations, because within the limits of administrative policies, it is the cooperating teacher and supervisor who mostly control the destiny of the student-teaching triad once it is formed and operating. For a recent description of the outstanding plan to better prepare student-teaching leaders in Oregon, see Ward and Suttle (1966). Also required for developing such methods would be much more information and thought about student teachers. In agreement with past findings, our results found important differences between elementary and secondary student teachers' attitudes. However, we found their triadic attitude relationships to be mostly similar.

With greater knowledge of triad members, interaction patterns in triads can be given further investigation. Then understanding more about the operations of triads and having better notions of criterion behavior for effective teaching than available today, we can relate triad formation to objectives on the more certain basis of systematic input-output requirements. Thus, deliberate triad formation can provide more maximum positive effects for student teachers' personal and professional growth. However, because the study of interaction processes in educational settings is only now taking root (Withal and Lewis, 1963), all of these developments will require much time and effort. Nevertheless, before such understanding is available, triad formation can be better handled than they are today by using existing information on personality characteristics, teacher behavior, and group interaction.

Other results indicate that cooperating teachers' affective attitudes toward children correlate positively with student teachers' ratings of their cooperating teachers where student teachers value more highly the affective need-mediating behavior of their cooperating teachers. Also, comparisons of attitude relationships for pre- and posttest cognitively- and affectively-oriented groups of student teachers indicated student teachers have need-dispositions that influence their relationships with their leaders. These findings demonstrate the need to consider the individual characteristics and behavior of triad members, especially of the student for whom the triad is established in the first place.

Probably the most important step in enhancing the effectiveness of the student-teaching triad would be increased emphasis on the triad itself by teacher educators. Each potential member, whether student teacher, supervisor, or cooperating teacher, should perceive the student-teaching experience as an interaction of three working cooperatively together. Such an emphasis on the triad would require that the triad actually functions as an interacting unit and that time and purpose for triad members to meet and work together be provided by administrative sources.

Realistically, many present problems, such as conflicting responsibilities and over-crowded schedules for all triad members, do not easily lend themselves to sweeping administrative changes. Yet these problems need to be overcome to help create professional, primary-group arrangements in triads today. However, a real sense of the potential in triad relationships by triad members will help prevent the predominant negativity so common in this study's triads. This awareness alone may help enhance communication and cooperation between triad members. If administrative support is given this important emphasis on developing the effectiveness of triad[illegible], by providing time and policies for triad operations and special selection and training for triad leaders, then there should be far less likelihood of or excuse for triads with all negative dyads occurring.

Following suggestions from our analyses of the relationship of student teachers' and cooperating teachers' attitudes as determined by student teachers' need-dispositions, we studied the evaluative ratings of student teachers by their leaders. We found that about one-third of the cognitively-oriented student teachers, i.e., those who preferred leaders' help in learning and working to be better teachers, received C and D grades, which are considered unsatisfactory grades for student teaching where this study was conducted. At the same time, affectively-oriented student teachers, i.e., those who preferred leaders' support, sympathy, and warmth, received almost exclusively A and B grades. Even when the affectively-oriented student teachers' attitudes correlated negatively with cooperating teachers' attitudes and were low in respect to young people and teaching as a career, such students received higher ratings and grades.

In other words, the student teachers who indicated they wanted to learn how to be more effective teachers received lower grades and criticisms for being uncommitted to teaching and uninterested in children. The student teachers who indicated they wanted leaders' social-emotional aid and sympathy rather than instructional guidance received high grades and favorable comments concerning their commitment to teaching and interest in children.

It was also found that supervisors' and cooperating teachers' posttest evaluations and rating scores for student teachers showed more disagreement than the letter grades given the student teachers. However, disregarding plus and minus signs, leaders disagreed in letter grades assigned to students by as much as 31% in one group and as little as 17% in another group. Rating scores on questionnaires similar to those on reference letter forms disagreed in relation to medians as much as 37% and as little as 23%.

The college supervisor usually has sole responsibility for formally assigning final grades and writing evaluations, but this study's evidence of disagreement among leaders' ratings indicates a serious problem in providing valid and objective evaluations of student teachers. Since cooperating teachers and other individuals also contribute reference letters, if not letter grades, to the student teachers' records, school personnel officials must sense disagreement and contradiction among evaluations. When personnel officials find disagreement in applicants' evaluations, they may consider those cases as doubtful prospects and give priority to applicants with uniformly high evaluations. Such personnel practices, however, would make better sense if we could rely on uniformly high abilities of supervisors, cooperating teachers, and others to evaluate validly and objectively. The findings by this study may give pause to those operating on such assumptions. If the two professional educators closest to the student teacher can vary so in their final evaluations of him, then their perceptions of the student teacher may be loaded with error. Thus, bias may play a greater role in these evaluations than we dared to imagine.

Certainly evaluation processes is another reason to emphasize greater triad cohesion and interaction. Increased interaction could facilitate openness and agreement in evaluation and provide more feedback and opportunity for student teachers to benefit from leaders' evaluation. Thus, as student teachers become actively involved in this process, they can develop more easily the professional habit of self-evaluation. Evaluation, as with all aspects of student teaching, should be more effective if it is conducted in the manner that provides greatest transfer to the student teacher's professional behavior. Discontinuing the assignment of letter grades for student teaching and using simple pass-fail marks would be good, short-range steps to help overcome problems of "supervisor bias." However, the problem of providing adequate amounts of objective evaluation would remain.

As expected, cooperating teachers' attitudes toward young people and teaching as a career were found to influence similar student teachers' attitudes. However, roughly half of the student teachers influenced shifted their attitudes incongruently, i.e., their attitudes changed in the opposite direction to those of the cooperating teacher. Half of the student teachers influenced shifted their attitudes in the congruent direction, i.e., their attitudes changed to more nearly approximate cooperating teachers' attitudes. Interestingly, incongruent influence was found to be operating in most of the 124 cooperating teacher-student teacher dyads. Oftentimes, student teachers are assigned cooperating teachers that supervisors knowingly disagree with in educational viewpoints and methods. Faced with such conditions, student teachers may be indicating favorable progress when they display incongruent effect.

The last point illustrates the need to help the weaker cooperating teacher, but the need and opportunity is there for all cooperating teachers. This approach to provide cooperating teachers enrichment and growth should not be as easily dismissed as it has been in the past. Greater triad functioning and unity could then be of significant value to each triad member. Therefore, we recommend that school districts allowing student teachers to participate in their classrooms require regular and meaningful triad relationships as part of their student-teaching collaboration with teacher education programs.

In this requirement, school districts would encourage cooperating teachers' in-service growth through these experiences. Instead of viewing his learning and understanding complete, the best teachers are always learners first. There seems to be few better ways to provide new ideas and more professional rewards for cooperating teachers. All triad members can gain as leaders cooperatively stimulate and foster a prospective teacher's first attempts in a classroom, such as cooperatively perfecting teaching-learning sequences, conducting child studies, discussing and testing innovative and "trade-trick" practices, and challenging the reasons why this or that should be done or not done with other triad members. Certainly the leaders would gain from this emphasis on the triad.

As has been said before, the college supervisor is the key person in the triad. Student-teaching supervision should be his specialization and dedication. In the triad framework, the college supervisor carries the greatest potential for influencing the nature of interaction in the triad. However, given the typical burdens of college supervisors' work, such as too many students to adequately supervise and the low prestige and narrow academic background associated with such work in many teacher education centers, the supervisor is always working against tremendous disadvantages and frustration. Many supervisors perceive good things they would like to pursue in their work, but there are often too many handicaps, especially in establishing meaningful interaction. Often, his chief functions become handling administrative routines, providing superficial conciliation and facilitation of the relationships between cooperating teacher and student teacher, and taking responsibility for final evaluation of the student teacher.

The greater appeal at this time, therefore, is to the administrative sources responsible for the organization and implementation of student-teaching programs than it is to the triad leaders. With greater enrollments in colleges and universities today and the increasing "teacher shortage," teacher education centers have attempted to handle conflicting quantitative and qualitative program demands at the same time. Often, there is only enough time, resources, and inclination to handle the quantitative needs, e.g., the major goals being the number of education majors and B.E. degrees awarded. However, never have professional educators realized more than they do today that qualitative program changes in teacher education must be made. For improvements in student teaching, therefore, we recommend the greater qualitative development of the student-teaching triad, even if such changes are at the cost of decreasing the number of triads an institution can provide at one time.

If student-teaching requirements really do matter in the preparation of effective teachers, then the student-teaching triad should become an integral, cooperative team. By building upon today's loosely-connected triad structure, we can make systematic, qualitative changes to provide meaningful interaction between student teacher, college supervisor, and cooperating teacher. In these changes, we can create a higher level of professionalism in student teaching and more often obtain the desired result. The student-teaching triad could become the most important aspect of teacher preparation and indeed, professional education in general.

The reader should be reminded that this was a pilot study, and further investigations of the student-teaching triad should now follow. Suggestions for future studies were offered in the preceding chapters, as possible problems in the study's data were discussed and new concerns beyond this study's were raised.

References

Allen, D. W. A new design for teacher education: the teacher intern program at Stanford University. *Journal of Teacher Education*, 1966, 42, 296-300.

Andrews, L. O. Theory underlying proposed state and federal support to promote high-quality student teaching. *Action for improvement of teacher education*. Washington, D. C.: American Association of Colleges for Teacher Education, 1965.

Bass, B. M. *Leadership, psychology, and organization behavior*. New York: Harper, 1960.

Beery, J. R. Does professional preparation make a difference? *Journal of Teacher Education*, 1962, 13, 386-395.

Bennie, W. A. Campus supervision of student-teaching -- a closer look. *Teachers College Journal*, 1964, 35, 131-133.

Brown, R. *Social psychology*. New York: The Free Press, 1965.

Brown, R. Models of attitude change. In Theodore M. Newcomb (Ed.), *New directions in psychology*. New York: Holt, Rinehart and Winston, 1962, Pp. 1-85.

Chapman, L. J., & Campbell, D. T. An attempt to predict the performance of three-man teams from attitude measures. *Journal of Social Psychology*, 1957, 46, 277-286.

Chase, Helen M. What do beginning teachers think of teacher training programs? *Ohio Schools*, 1963, 41, 30-31.

Cohen, A. R. *Attitude change and social influence*. New York: Basic Books, 1964.

Coladarci, A. P. Foreword. In S. B. Sarason, K. S. Davidson, & B. Blatt, *The preparation of teachers*. New York: John Wiley, 1962.

Conant, J. B. *The education of American teachers*. New York: McGraw-Hill, 1963.

Cook, W. W., Hoyt, C. J., & Eikaas, A. Studies of predictive validity of the Minnesota teacher attitude inventory. *Journal of Teacher Education*. 1956, 7, 167-172.

Cook, W. W., Leeds, C. H., & Callis, R. *Minnesota teacher attitude inventory: manual*. New York: Psychological Corp., 1951.

Corrigan, D., & Griswold, K. Attitude changes of student teachers. *Journal of Educational Research*, 1963, 57, 93-95.

Coss, A. F. A comparative analysis of the expressed attitudes of elementary education students, their university instructors, and their supervising teachers towards pupil-teacher relations as measured by the Minnesota teacher attitude inventory. Unpublished doctoral dissertation. Indiana University, 1959.

Crombag, H. F. Cooperation and competition in means-interdependent triads: a replication. Journal of Personality and Social Psychology, 1966, 4, 692-695.

Day, H. P. Attitude changes of beginning teachers after initial teaching experience. Journal of Teacher Education, 1959, 10, 326-328.

Della Piana, G. M.,& Gage, N. L. Pupils' values and the validity of the Minnesota teacher attitude inventory. Journal of Educational Psychology, 1955, 46, 167-178.

Deutsch, M. An experimental study of the effects of cooperation and competition upon group process. Human Relations, 1949, 2, 199-231. (a)

Deutsch, M. A theory of cooperation and competition. Human Relations, 1949, 2, 129-152. (b)

Dunham, D. R. Field of attitudes of student teachers, college supervisors, and supervising teachers toward youth. Unpublished doctoral dissertation. Indiana University, 1958.

Faucheux, C., & Mackenzie, K. D. Task dependency of organizational centrality: its behavioral consequences. Journal of Experimental Social Psychology, 1966, 2, 361-375.

Festinger, L. A theory of cognitive dissonance. Stanford, California: Stanford University Press, 1957.

Flament, C. Elementary processes of communication and structuration in a small group. Journal of Experimental Social Psychology, 1966, 2, 376-386.

Fruchter, B., Blake, R. R., & Mouton, Jane S. Some dimensions of interpersonal relations in three-man airplane crews. Psychological Monographs: General and Applied, 1957, 71, 1-19.

Fuller, Elizabeth M. The use of teacher-pupil attitudes, self-rating and measures of general ability in the pre-service selection of nursery school-kindergarten-primary teachers. Journal of Educational Research, 1951, 44, 675-686.

Gage, N. L. Paradigms for research on teaching. In N. L. Gage (Ed.), Handbook of research on teaching. Chicago: Rand McNally, 1963, pp. 94-141.

Gage, N. L., Runkel, P. J., & Chatterjee, B. B. Changing teacher behavior through feedback from pupils: an application of equilibrium theory. In W. W. Charters, Jr. and N. L. Gage (Eds.), Readings in the social psychology of education. Boston: Allyn and Bacon, 1963, 173-181.

Getzels, J. W., & Jackson, P. W. The teacher's personality and characteristics. In N. L. Gage (Ed.), Handbook of research on teaching. Chicago: Rand McNally, 1963, pp. 506-582.

Guilford, J. P. Fundamental statistics in psychology and education. (4th ed.) New York: McGraw-Hill, 1965.

Guttman, L. A basis for analyzing test-retest reliability. Psychometrika, 1945, 10, 255-282.

Halpin, A. W., & Winer, B. J. A factorial study of leader behavior descriptions. In R. M. Stogdill and A. E. Coone (Eds.), Leader behavior: its description and measurement. Bureau Business Research Monograph 38. Columbus: Ohio State University, 1957.

Heider, F. The psychology of interpersonal relations. New York: Wiley, 1958.

Heil, L. M., & Washburne, C. Brooklyn college research in teacher effectiveness. Journal of Teacher Education, 1962, 55, 347-351.

Holemon, R. L. An investigation of attitudes of student teaching advisors and student teacher attitude change. Unpublished draft, 1966.

Holemon, R. L. Attitude change of the student teacher: a test of the ABX Model. Unpublished doctoral dissertation. Washington University, 1963.

Horn, J. L., & Morrison, W. L. Dimensions of teacher attitudes. Journal of Educational Psychology, 1965, 56, 118-125.

Horst, P. A generalized expression of the reliability of measures. Psychometrika, 1949, 14, 21-32.

Hoyt, C. J., & Cook, W. W. The stability of MTAI scores during two to seven years of teaching. Journal of Teacher Education, 1960, 11, 487-491.

Joyce, B. R. The social climate of teacher education. Journal of Teacher Education, 1963, 14, 179-183.

Kelley, T. L. The selection of upper and lower groups for the validation of test items. Journal of Educational Psychology, 1939, 30, 17-24.

Kerlinger, F. N. Education attitudes and perceptions of teachers: suggestions for teacher effectiveness research. School Review, 1963, 71, 1-11.

Krech, D., Crutchfield, R. S., & Ballachey, E. L. Individual in society. New York: McGraw-Hill, 1962.

Kropp, R. P., & Anderson, J. E., Jr. Teacher roles before and after internship. Journal of Educational Research, 1963, 56, 366-369.

Lindsey, Margaret (Ed.) Preparation of professional personnel, New horizons for the teaching profession. Washington, D. C.: NEA, 1961, Pp. 27-108.

Lott, A. J., & Lott, Bernice E. Group cohesiveness and individual learning. Journal of Educational Psychology, 1966, 57, 61-73.

MacDonald, J. B., & Doll, R. C. Who is ready for teacher education? Journal of Educational Sociology, 1961, 35, 123-127.

Michaelis, J. E. Teacher education -- student teaching and internship. In C. W. Harris (Ed.), Encyclopedia of educational research. New York: Macmillan, 1960, 1473-1481.

Miller, D. L. Relationship between certain personality variables of supervising teachers and their student teachers and the ratings given the student teachers. Unpublished doctoral dissertation. Indiana University, 1960.

Miller, J. G. Living systems: basic concepts. Behavioral Science, 1965a, 10, 193-237.

Miller, J. G. Living systems: structure and process. Behavioral Science, 1965b, 10, 337-379.

Newcomb, T. M. Individual systems of orientation. In S. Koch (Ed.), Psychology: a study of a science, vol. 3, Formulations of the person and the social context. New York: McGraw-Hill, 1959, Pp. 384-422.

Newcomb, T. M., Turner, R. H., & Converse, P. E. Social psychology. New York: Holt, 1965.

Oelke, M. C. A study of student teachers' attitudes toward children. Journal of Educational Psychology, 1956, 47, 193-196.

Opportunities for teacher education. American Education, 1966, 2, 1-3.

Ort, E. P. New dimensions in pre-student teaching laboratory experiences. Teachers College Journal, 1965, 36, 167-168.

Osgood, C. E., & Tannenbaum, P. H. The principle of congruity in the prediction of attitude change. Psychological Review, 1955, 62, 42-55.

Perrodin, A. F. In support of supervising teacher education programs. Journal of Teacher Education, 1961, 12-13, 26-38.

Price, R. D. The influence of supervising teachers. Journal of Teacher Education, 1961, 12-13, 471-475.

Raven, B. H., & Eachus, H. T. Cooperation and competition in means-interdependent triads. Journal of Abnormal and Social Psychology, 1963, 67, 307-316.

Reynard, H. E. Pre-service and in-service education of teachers. Review of Educational Research, 1963, 33, 369-380.

Rosenberg, M. J., & Abelson, R. P. An analysis of cognitive balancing. In M. J. Rosenberg et al., Attitude organization and change. New Haven, Connecticut: Yale University Press, 1960.

Ryans, D. G. Characteristics of teachers. Washington, D. C.: American Council on Education, 1960.

Sandgren, D. L., & Schmidt, L. G. Does practice teaching change attitudes toward teaching? Journal of Educational Research, 1956, 49, 673-680.

Sanford, F. H. The follower's role in leadership phenomena. In G. S. Swanson, T. M. Newcomb, & E. G. Hartley (Eds.), Readings in social psychology. (Rev. ed.) New York: Holt, 1952, Pp. 328-340.

Sarason, S. B., Davidson, K. S., & Blatt, B. The preparation of teachers. New York: John Wiley, 1962.

Schueler, H., Gold, M. J., & Mitzel, H. E. Improvement of student teaching. Review of Educational Research, 1965, 35, 135.

Sharpe, D. M. Suggestions for supervised teaching. Teachers College Journal, 1964, 35, 119-122.

Symonds, P. J. Teaching as a function of the teacher's personality. Journal of Teacher Education, 1954, 5, 79-83.

Thibaut, J. W., & Kelley, H. H. The social psychology of groups. New York: Wiley, 1959.

Veldman, D. J. Characteristics of elementary education majors. Research memorandum 4, University of Texas, College of Education, December, 1957.

Veldman, D. J. Panel analysis: comparisons of elementary and secondary majors and changes during training period. Research memorandum 29, University of Texas, College of Education, March, 1964.

Veldman, D. J. Personality characteristics of education students as a function of sex, course level, major field, and the effects of two years of college. Research memorandum 15, University of Texas, College of Education, January, 1962.

Walberg, H. J. Personality, role conflict, and self-conception in student teachers. Unpublished research bulletin. Princeton, New Jersey: Educational Testing Service, 1966.

Ward, W., & Suttle, J. The Oregon plan to improve the induction process: the program to prepare supervising teachers and the organization of schools and colleges to accommodate the process. Journal of Teacher Education, 1966, 17, 444-451.

Wiest, Ethel. Phonetic generalization in spelling. Unpublished master's thesis. University of Texas, 1966.

Withal, J., & Lewis, W. W. Social interaction in the classroom. In N. L. Gage (Ed.), Handbook of research on teaching. Chicago: Rand McNally, 1963, pp. 683-714.

Woodring, P. New directions in teacher education. New York: Fund for Advancement of Education, 1957.

Wroblewski, C. A student teacher views the supervising teacher. Journal of Teacher Education, 1963, 14, 333.

Yee, A. H. Causality in the relationship between teachers' and pupils' interpersonal attitudes. Unpublished doctoral dissertation. Stanford University, 1965.

Yee, A. H. *Factors involved in determining the relationships between teachers' and pupils' interpersonal attitudes*. U. S. Department of Health, Education, & Welfare, Office of Education. Cooperative Research Project No. S-354 (OE-6-10-077). Austin: The University of Texas, 1966.

Yee, A. H., & Gage, N. L. Techniques for determining causal relationships between interpersonal attitudes. Unpublished draft, 1966.

Appendix A

MODIFICATION OF THE
MINNESOTA TEACHER ATTITUDE INVENTORY

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DIRECTIONS

This inventory consists of 150 statements designed to sample opinions about teacher-student relations. There is considerable disagreement as to what these relations should be; therefore, there are no right or wrong answers. What is wanted is your own individual feelings about the statements. Read each statement and decide how YOU feel about it. Then mark your answer on the space provided on the answer sheet. Do not make any marks on this booklet.

	SA	A	U	D	SD
If you strongly agree, blacken space under "SA"......................	■	⁞	⁞	⁞	⁞
	SA	A	U	D	SD
If you agree, blacken space under "A"................................	⁞	■	⁞	⁞	⁞
	SA	A	U	D	SD
If you are undecided or uncertain, blacken space under "U"...........	⁞	⁞	■	⁞	⁞
	SA	A	U	D	SD
If you disagree, blacken space under "D"...........................	⁞	⁞	⁞	■	⁞
	SA	A	U	D	SD
If you strongly disagree, blacken space under "SD".................	⁞	⁞	⁞	⁞	■

Think in terms of the general situation rather than specific ones. There is no time limit, but work as rapidly as you can. PLEASE RESPOND TO EVERY ITEM.

SA--Strongly agree
A--Agree

U--Undecided or uncertain

D--Disagree
SD--Strongly disagree

---

1. Most young people are obedient.

2. Students who "act smart" probably have too high an opinion of themselves.

3. Minor disciplinary situations should sometimes be turned into jokes.

4. Shyness is preferable to boldness.

5. Teaching never gets monotonous.

6. Most students don't appreciate what a teacher does for them.

7. If the teacher laughs with the student in amusing classroom situations, the class tends to get out of control.

8. A young person's companionships can be too carefully supervised.

9. A young person should be encouraged to keep his likes and dislikes to himself.

10. It sometimes does a young person good to be criticized in the presence of other young people

11. Unquestioning obedience in a young person is not desirable.

12. Students should be required to do more studying.

13. The first lesson a child needs to learn is to obey the teacher without hesitation.

14. Young people are difficult to understand these days.

15. There is too great an emphasis upon "keeping order" in the classroom.

16. A student's failure is seldom the fault of the teacher.

17. There are times when a teacher cannot be blamed for losing patience with a student.

18. A teacher should never discuss sex problems with the students.

19. Students have it too easy in the modern school.

20. A teacher should not be expected to burden himself with a student's problems.

21. Students expect too much help from the teacher in getting their lessons.

22. A teacher should not be expected to sacrifice an evening of recreation in order to visit a student's home.

GO ON TO THE NEXT PAGE

SA--Strongly agree
A--Agree

U--Undecided
or uncertain

D--Disagree
SD--Strongly disagree

---

23. Most students do not make an adequate effort to prepare their lessons.

24. Too many young people nowadays are allowed to have their own way.

25. Young people's wants are just as important as those of an adult.

26. The teacher is usually to blame when students fail to follow directions.

27. A young person should be taught to obey an adult without question.

28. The boastful youngster is usually overconfident of his ability.

29. Young people have a natural tendency to be unruly.

30. A teacher cannot place much faith in the statements of students.

31. Some young people ask too many questions.

32. A student should not be required to stand when reciting.

33. The teacher should not be expected to manage a young person if the latter's parents are unable to do so.

34. A teacher should never acknowledge his ignorance of a topic in the presence of his students.

35. Discipline in the modern school is not as strict as it should be.

36. Most students lack productive imagination.

37. Standards of work should vary with the student.

38. The majority of young people take their responsibilities seriously.

39. To maintain good discipline in the classroom a teacher needs to be "hardboiled."

40. Success is more motivating than failure.

41. Imaginative tales demand the same punishment as lying.

42. Every pupil in the sixth grade should have sixth grade reading ability.

43. A good motivating device is the critical comparison of a student's work with that of other students.

44. It is better for a young person to be bashful than to be "boy or girl crazy."

GO ON TO THE NEXT PAGE

SA--Strongly agree
A--Agree

U--Undecided
or uncertain

D--Disagree
SD--Strongly disagree

---

45. Course grades should never be lowered as punishment.

46. More "old-fashioned whippings" are needed today.

47. The young person must learn that "teacher knows best."

48. Increased freedom in the classroom creates confusion.

49. A teacher should not be expected to be sympathetic toward truants.

50. Teachers should exercise more authority over their students than they do.

51. Discipline problems are the teacher's greatest worry.

52. The low achiever probably is not working hard enough and applying himself.

53. There is too much emphasis on grading.

54. Most young people lack common courtesy toward adults.

55. Aggressive young people are the greatest problems.

56. At times it is necessary that the whole class suffer when the teacher is unable to identify the culprit.

57. Many teachers are not severe enough in their dealings with students.

58. Children "should be seen and not heard."

59. A teacher should always have at least a few failures.

60. It is easier to correct discipline problems than it is to prevent them.

61. Young people are usually too sociable in the classroom.

62. Most students are resourceful when left on their own.

63. Too much nonsense goes on in many classrooms these days.

64. The school is often to blame in cases of truancy.

65. Young people are too carefree.

66. Students who fail to prepare their lessons daily should be kept after school to make this preparation.

67. Students who are foreigners usually make the teacher's task more unpleasant.

GO ON TO THE NEXT PAGE

SA--Strongly agree
A--Agree
U--Undecided or uncertain
D--Disagree
SD--Strongly disagree

---

68. Most young people would like to use good English.

69. Assigning additional school work is often an effective means of punishment.

70. Dishonesty as found in cheating is probably one of the most serious of moral offenses.

71. Young people should be allowed more freedom in their execution of learning activities.

72. Students must lean to respect teachers if for no other reason than that they are teachers.

73. Young people need not always understand the reasons for social conduct.

74. Students usually are not qualified to select their own topics for themes and reports.

75. No youngster should rebel against authority.

76. There is too much leniency today in the handling of young people.

77. Difficult disciplinary problems are seldom the fault of the teacher.

78. The whims and impulsive desires of young people are usually worthy of attention.

79. Young people usually have a hard time following instructions.

80. Young people nowadays are allowed too much freedom in school.

81. All children should start to read before the age of seven.

82. Universal promotion of students lowers achievement standards.

83. Young people are unable to reason adequately.

84. A teacher should not tolerate use of slang expressions by his students.

85. The young person who misbehaves should be made to feel guilty and ashamed of himself.

86. If a young person wants to speak or to leave his seat during the class period, he should always get permission from the teacher.

87. Students should not respect teachers any more than any other adults.

88. Throwing of chalk and erasers should always demand severe punishment.

GO ON TO THE NEXT PAGE

SA--Strong agree
A--Agree
U--Undecided or uncertain
D--Disagree
SD--Strongly disagree

---

89. Teachers who are liked best probably have a better understanding of their students.

90. Most students try to make things easier for the teacher.

91. Most teachers do not give sufficient explanation in their teaching.

92. There are too many activities lacking in academic respectability that are being introduced into the curriculum of the modern school.

93. Young people should be given more freedom in the classroom than they usually get.

94. Most students are unnecessarily thoughtless relative to the teacher's wishes.

95. Young people should not expect talking privileges when adults wish to speak.

96. Students are usually slow to "catch on" to new material.

97. Teachers are responsible for knowing the home conditions of every one of their students.

98. Students can be very boring at times.

99. Young people have no business asking questions about sex.

100. Young people must be told exactly what to do and how to do it.

101. Most students are considerate of their teachers.

102. Whispering should not be tolerated.

103. Shy students especially should be required to stand when reciting.

104. Teachers should consider problems of conduct more seriously than they do.

105. A teacher should never leave the class to its own management.

106. A teacher should not be expected to do more work than he is paid for.

107. There is nothing that can be more irritating than some students.

108. "Lack of application" is probably one of the most frequent causes for failure.

109. Young people nowadays are too frivolous.

110. As a rule teachers are too lenient with their students.

GO ON TO THE NEXT PAGE

SA--Strongly agree A--Agree	U--Undecided or uncertain	D--Disagree SD--Dtrongly disagree

---

111. Slow students certainly try one's patience.

112. Grading is of value because of the competition element.

113. Students like to annoy the teacher.

114. Young people usually will not think for themselves.

115. Classroom rules and regulations must be considered inviolable.

116. Most students have too easy a time of it and do not learn to do real work.

117. Young people are so likeable that their shortcomings can usually be overlooked.

118. A student found writing obscene notes should be severely punished.

119. A teacher seldom finds young people really enjoyable.

120. There is usually one best way to do school work which all students should follow.

121. It isn't practicable to base school work upon young people's interest.

122. It is difficult to understand why some young people want to come to school so early in the morning before opening time.

123. Young people that cannot meet the school standards should be dropped.

124. Young people are usually too inquisitive.

125. It is sometimes necessary to break promises made to young people.

126. Young people today are given too much freedom.

127. One should be able to get along with almost any youngster.

128. Young people are not mature enough to make their own decisions.

129. A youngster who bites his nails needs to be shamed.

130. Young people will think for themselves if permitted.

131. There is no excuse for the extreme sensitivity of some young people.

132. Young people just cannot be trusted.

133. Young people should be given reasons for the restrictions placed upon them.

134. Most students are not interested in learning.

GO ON TO THE NEXT PAGE

SA--Strongly agree
A--Agree

U--Undecided or uncertain

D--Disagree
SD--Strongly disagree

---

135. It is usually the uninteresting and difficult subjects that will do the student the most good.

136. A student should always be fully aware of what is expected of him.

137. There is too much intermingling of the sexes in extra-curricular activities.

138. The young person who stutters should be given the opportunity to recite oftener.

139. The teacher should disregard the complaints of the student who constantly talks about imaginary illnesses.

140. Teachers probably over-emphasize the seriousness of such student behavior as the writing of obscene notes.

141. Teachers should not expect students to like them.

142. Young people act more civilized than do many adults.

143. Aggressive young people require the most attention.

144. Teachers can be in the wrong as well as students.

145. Young people today are just as good as those of the past generation.

146. Keeping discipline is not the problem that many teachers claim it to be.

147. A student has the right to disagree openly with his teachers.

148. Most student misbehavior is done to annoy the teacher.

149. One should not expect students to enjoy school.

150. In student appraisal effort should not be distinguished from scholarship.

Appendix B

My Cooperating Teacher (V)

		Circle only one		
1.	Is this cooperating teacher usually kind to you?	Yes	?	No
2.	Is this cooperating teacher often authoritarian and overly direct?	Yes	?	No
3.	Has this cooperating teacher discussed many interesting facts and theories concerning teaching with you?	Yes	?	No
4.	Do most of the students like this cooperating teacher?	Yes	?	No
5.	Do you like this cooperating teacher?	Yes	?	No
6.	Does this cooperating teacher really know subject matter content?	Yes	?	No
7.	Do you learn a lot of things from this cooperating teacher?	Yes	?	No
8.	Does this cooperating teacher understand your feelings?	Yes	?	No
9.	Does this cooperating teacher help you learn?	Yes	?	No
10.	Would you recommend working with this cooperating teacher to another student?	Yes	?	No
11.	Do most students think your cooperating teacher is a good one?	Yes	?	No
12.	Is this cooperating teacher easily annoyed or bothered?	Yes	?	No
13.	Are you hesitant to be yourself with this cooperating teacher?	Yes	?	No
14.	Does this cooperating teacher usually laugh with the students when something funny happens?	Yes	?	No
15.	Does this cooperating teacher really know how to teach?	Yes	?	No

16. Would you like to have a different cooperating teacher if you could? Yes ? No

17. Would you like to have this cooperating teacher for a district supervisor or principal when you begin teaching? Yes ? No

18. Does this cooperating teacher seem interested in your extra-curricular activities? Yes ? No

19. Does this cooperating teacher make difficult things easy to understand? Yes ? No

20. Does this cooperating teacher challenge you to think for yourself? Yes ? No

21. Is this one of the best teachers you ever had? Yes ? No

22. Are you afraid to ask this cooperating teacher for help? Yes ? No

23. Would this cooperating teacher speak to you when he meets you on the street? Yes ? No

24. Does this cooperating teacher explain his instructions clearly? Yes ? No

25. Do students like this cooperating teacher? Yes ? No

26. Have you usually enjoyed the conferences you have had with this cooperating teacher? Yes ? No

27. Would you like your best friend to work with this cooperating teacher? Yes ? No

28. Is this cooperating teacher up-to-date on innovations in educational theory and methods? Yes ? No

29. Has this cooperating teacher suggested teaching aids or readings to you that have been beneficial in your teaching? Yes ? No

30. Does this cooperating teacher seem easy to approach? Yes ? No

31. Does this cooperating teacher give good reasons for his ideas and suggestions? Yes ? No

32. Is it easy for you to go to this cooperating teacher with your problems? Yes ? No

33. If you could start all over again, would you prefer to work with another cooperating teacher? Yes ? No

My College Supervisor (U)

		Circle only one		
1.	Is this college supervisor usually kind to you?	Yes	?	No
2.	Is this college supervisor often authoritarian and overly direct?	Yes	?	No
3.	Has this college supervisor discussed many interesting facts and theories concerning teaching with you?	Yes	?	No
4.	Do most of the students like this college supervisor?	Yes	?	No
5.	Do you like this college supervisor?	Yes	?	No
6.	Does this college supervisor really know subject matter content?	Yes	?	No
7.	Do you learn a lot of things from this college supervisor?	Yes	?	No
8.	Does this college supervisor understand your feelings?	Yes	?	No
9.	Does this college supervisor help you learn?	Yes	?	No
10.	Would you recommend working with this college supervisor to another student?	Yes	?	No
11.	Do most students think your college supervisor is a good one?	Yes	?	No
12.	Is this college supervisor easily annoyed or bothered?	Yes	?	No
13.	Are you hesitant to be yourself with this college supervisor?	Yes	?	No
14.	Does this college supervisor usually laugh with the students when something funny happens?	Yes	?	No
15.	Does this college supervisor really know how to teach?	Yes	?	No
16.	Would you like to have a different college supervisor if you could?	Yes	?	No

17. Would you like to have this college supervisor for a district supervisor or principal when you begin teaching? Yes ? No

18. Does this college supervisor seem interested in your extra-curricular activities? Yes ? No

19. Does this college supervisor make difficult things easy to understand? Yes ? No

20. Does this college supervisor challenge you to think for yourself? Yes ? No

21. Is this one of the best teachers you ever had? Yes ? No

22. Are you afraid to ask this college supervisor for help? Yes ? No

23. Would this college supervisor speak to you when he meets you on the street? Yes ? No

24. Does this college supervisor explain his instructions clearly? Yes ? No

25. Do students like this college supervisor? Yes ? No

26. Have you usually enjoyed the conferences you have had with this college supervisor? Yes ? No

27. Would you like your best friend to work with this college supervisor? Yes ? No

28. Is this college supervisor up-to-date on innovations in educational theory and methods? Yes ? No

29. Has this college supervisor suggested teaching aids or readings to you that have been beneficial in your teaching? Yes ? No

30. Does this college supervisor seem easy to approach? Yes ? No

31. Does this college supervisor give good reasons for his ideas and suggestions? Yes ? No

32. Is it easy for you to go to this college supervisor with your problems? Yes ? No

33. If you could start all over again, would you prefer to work with another college supervisor? Yes ? No

Items for "My College Supervisor" and "My Cooperating Teacher" Merit Dimensions

Affective Merit	Cognitive Merit	General Merit
1	3	4
-2	6	5
8	7	10
-12	9	11
-13	15	-16
14	19	17
18	20	21
-22	24	25
23	28	26
30	29	27
32	31	-33

Minus sign indicates that negative response to item by rater is favorable to person rated.

Appendix C

WHICH DO YOU WANT MOST?

		Much more	Little more	Little more	Much more		
1a.	Explains so I can understand.					1b.	Recognizes our social-emotional needs.
2a.	Knows subject matter content.					2b.	Is nice to me even if I do something wrong.
3a.	Is fair to everyone.					3b.	Explains so I can understand.
4a.	Gives me enough work to do.					4b.	Recognizes our social-emotional needs.
5a.	Is nice to me even if I do something wrong.					5b.	Helps me learn.
6a.	Knows subject matter content.					6b.	Doesn't hurt my feelings.
7a.	Explains so I can understand.					7b.	Makes me feel I'm liked.
8a.	Gives me enough work to do.					8b.	Is fair to everyone.
9a.	Recognizes our social-emotional needs.					9b.	Makes ideas clear.

	Much more	Little more	Little more	Much more	
10a. Teaches me lots of things.					10b. Is nice to me even if I do something wrong.
11a. Doesn't hurt my feelings.					11b. Helps me learn.
12a. Is friendly to me.					12b. Knows subject matter content.
13a. Explains so I can understand.					13b. Doesn't make me afraid.
14a. Makes me feel I'm liked.					14b. Gives me enough work to do.
15a. Makes ideas clear.					15b. Is fair to everyone.
16a. Knows how to teach.					16b. Recognizes our social-emotional needs.
17a. Knows how to teach.					17b. Is nice to me even if I do something wrong.
18a. Doesn't hurt my feelings.					18b. Teaches me lots of things.
19a. Helps me learn.					19b. Is friendly to me.
20a. Knows subject matter content.					20a. Doesn't make me afraid.
21a. Is friendly to me.					21b. Explains so I can understand.

	Much more	Little more	Little more	Much more	
22a. Doesn't make me afraid.					22b. Gives me enough work to do.
23a. Makes ideas clear.					23b. Makes me feel I'm liked.
24a. Knows how to teach.					24b. Is fair to everyone.
25a. Teaches me lots of things.					25b. Recognizes our social-emotional needs.
26a. Is nice to me even if I do something wrong.					26b. Makes ideas clear.
27a. Knows how to teach.					27b. Doesn't hurt my feelings.
28a. Is friendly to me.					28b. Teaches me lots of things.
29a. Helps me learn.					29b. Doesn't make me afraid.
30a. Makes me feel I'm liked.					30b. Knows subject matter content.
31a. Doesn't hurt my feelings.					31b. Explains so I can understand.
32a. Gives me enough work to do.					32b. Is friendly to me.
33a. Doesn't make me afraid.					33b. Makes ideas clear.

	Much more	Little more	Little more	Much more	
34a. Knows how to teach.					34b. Makes me feel I'm liked.
35a. Is fair to everyone.					35b. Teaches me lots of things.
36a. Recognizes our social-emotional needs.					36b. Helps me learn.
37a. Is nice to me even if I do something wrong.					37b. Gives me enough work to do.
38a. Makes ideas clear.					38b. Doesn't hurt my feelings.
39a. Is friendly to me.					39b. Knows how to teach.
40a. Teaches me lots of things.					40b. Doesn't make me afraid.
41a. Makes me feel I'm liked.					41b. Helps me learn.
42a. Knows subject matter content.					42b. Is fair to everyone.
43a. Is nice to me even if I do something wrong.					43b. Explains so I can learn.
44a. Doesn't hurt my feelings.					44b. Gives me enough work to do.
45a. Makes ideas clear.					45b. Is friendly to me.

	Much more	Little more	Little more	Much more	
46a. Knows how to teach.					46b. Doesn't make me afraid.
47a. Makes me feel I'm liked.					47b. Teaches me lots of things.
48a. Is fair to everyone.					48b. Helps me learn.
49a. Recognizes our social-emotional needs.					49b. Knows subject matter content.

Each item above scored by giving one point for either cognitive category, i.e., "Much more" of "Little more." Total F and F' scores were found by summing the 49 item scores. Range, therefore, is zero (most affectively-oriented) to 49 (most cognitively-oriented).

Appendix D

(Leaders' Pre- and Posttest Questionnaires)

(Q_C)

College supervisor ______________________________

Please provide information and comments on the following items:

1. Number of years in public school teaching: .... ____________

2. Number of years in college supervision: .... ____________

3. Approximate number of student teachers supervised in the past: .... ____________

4. Brief comment on value of student teaching:

____

____

____

5. Brief comment on the professional and general quality of student teachers you have supervised:

____

____

____

6. Brief comment on cooperative relations and professional understanding between you and cooperating teachers:

____

____

____

(Q_T)

Cooperating teacher ______________________________

Please provide information and comments on the following items:

1. Years you have been a teacher: . . . . ________

2. Number of student teachers you have supervised in the past: ________

3. Number of observers you have supervised in the past: . . . . ________

4. Number of different college supervisors of student teachers and observers you have worked with in the past: . . . . . . ________

5. Brief comment on the value of student teaching experience:

____

____

____

6. Brief comment on the professional and general quality of student teachers you have supervised:

____

____

____

7. Brief comment on cooperative relations and professional understanding between you and college supervisors:

____

____

____

(Q_C')

College Supervisor ______________________________

Please provide information and comments on the following items:

1. Student teacher you are now supervising ______________________

2. Indicate by circling how well this student teacher compares to other student teachers you have supervised and/or known in the following categories (note that a circle around 4 would be exactly in the middle between the extremes):

a.	In general	Inferior	1 2 3 4 5 6 7	Superior
b.	Relations with pupils	Inferior	1 2 3 4 5 6 7	Superior
c.	Relations with cooperating teacher	Inferior	1 2 3 4 5 6 7	Superior
d.	Relations with college supervisor	Inferior	1 2 3 4 5 6 7	Superior
e.	Subject matter knowledge	Inferior	1 2 3 4 5 6 7	Superior
f.	Commitment to teaching	Inferior	1 2 3 4 5 6 7	Superior
g.	Energy and drive	Inferior	1 2 3 4 5 6 7	Superior
h.	Teaching skills	Inferior	1 2 3 4 5 6 7	Superior
i.	Originality, creative ability	Inferior	1 2 3 4 5 6 7	Superior

3. Brief comment on the semester's work with this student teacher and his or her cooperating teacher:

____

____

____

4. Final grade you think this student teacher has earned in student teaching:

____

(Q_T')

Cooperating teacher ______________________________

Please provide information and comments on the following items:

1. Student teacher you are now supervising ______________________

2. Indicate by circling how well this student teacher compared to other student teachers you have supervised and/or known in the following categories (note that a circle around 4 would be exactly in the middle between the extremes):

a.	In general	Inferior	1 2 3 4 5 6 7	Superior
b.	Relations with pupils	Inferior	1 2 3 4 5 6 7	Superior
c.	Relations with cooperating teacher	Inferior	1 2 3 4 5 6 7	Superior
d.	Relations with college supervisor	Inferior	1 2 3 4 5 6 7	Superior
e.	Subject matter knowledge	Inferior	1 2 3 4 5 6 7	Superior
f.	Commitment to teaching	Inferior	1 2 3 4 5 6 7	Superior
g.	Energy and drive	Inferior	1 2 3 4 5 6 7	Superior
h.	Teaching skills	Inferior	1 2 3 4 5 6 7	Superior
i.	Originality, creative ability	Inferior	1 2 3 4 5 6 7	Superior

3. Brief comment on the semester's work with this student teacher and his or her college supervisor:

____

____

____

4. Brief comment on how the relations between cooperating teachers, student teachers, and college supervisors could be improved (if no improvements necessary, please indicate so):

____

____

____

5. Final grade you would give this student teacher if you were his or her college supervisor:

____

Appendix E

Codes and Data

Throughout Appendix E code numbers read as follows:

Column	Identification
1	1 = pretest, 2 = posttest
2, 3	College supervisor #
4, 5	Student teacher #
6, 7, 8	Cooperating teacher #
9, 10, 11	$\underline{C}_0$ score
13, 14, 15	$\underline{T}_0$ "
17, 18, 19	$\underline{S}_0$ "
22, 23	$\underline{F}$ "
24, 25	$\underline{U}_1$ "
26, 27	$\underline{U}_2$ "
28, 29	$\underline{U}_3$ "
30, 31	$\underline{U}_0$ "
32, 33	$\underline{V}_1$ "
34, 35	$\underline{V}_2$ "
36, 37	$\underline{V}_3$ "
38, 39	$\underline{V}_0$ "
41, 42	$\underline{C}_1$ "
44, 45	$\underline{C}_2$ "
47, 48	$\underline{C}_3$ "
50, 51	$\underline{T}_1$ "
53, 54	$\underline{T}_2$ "

56, 57	$\underline{T}_3$ score
59, 60	$\underline{S}_1$ "
62, 63	$\underline{S}_2$ "
65, 66	$\underline{S}_3$ "
68, 69	College supervisor's years of public school training experience
71, 72	Number of years in college supervision
76, 77	Cooperating teacher's years of public school teaching experience
78, 79	Number of student teachers supervised by cooperating teacher
81, 82	Number of different college supervisors cooperating teacher worked with previously

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